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ABSTRACT

A summary of the third in a series of workshops to consider the future of dental hygiene education and practice is presented. Papers are as follows: "Keynote Address. Building the Future Workshop: Realizing, Reckoning, Risking" (Susan Miller); "Sample Curriculum: Four-Year College Setting" (Kathleen Lukken); "Reaction Paper: Sample Curriculum in a Four-Year College Setting" (Denise Bowen); "Reaction Paper: Sample Curriculum in a Four-Year College Setting" (Sally Deck); "Reaction Paper: Sample Curriculum in a Four-Year College Setting" (Nancy Cooper); "Sample Curriculum: University Dental School Setting" (Cheryl Metzger); "Reaction Paper: Sample Curriculum in a University Dental School Setting" (Denise Bowen); "Reaction Paper: Sample Curriculum in a University Dental School Setting" (Nancy Cooper); "Reaction Paper: Sample Curriculum in a University Dental School Setting" (Sally Deck); "Sample Curriculum: Community College Setting" (Recie Pennel); "Reaction Paper: Sample Curriculum in a Community College Setting" (Denise Bowen); "Reaction Paper: Sample Curriculum in a Community College Setting" (Nancy Cooper); and "Reaction Paper: Sample Curriculum in a Community College Setting" (Sally Deck). Information is presented on general assembly reactions to sample curricula, strategic planning introduction, strategic planning group report, and the closing address. Six appendices are: curriculum panel; case study development; strategic planning session; workshop III participants; case studies; and representation maps. (SM)

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BUILDING THE FUTURE

DENTAL HYGIENE EDUCATION AND PRACTICE

WORKSHOP III

February 13-15, 1986
Holiday Mart Plaza Hotel
Chicago, IL

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AMERICAN DENTAL HYGIENISTS' ASSOCIATION

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ACKNOWLEDGMENTS

The Dental Hygiene Education and Practice Workshop III was the third in a series of workshops to consider the future of dental hygiene education and practice. The American Dental Hygienists' Association takes pride in having provided these workshops for the profession.

The success of this effort was due to the support of dental hygiene educators and practitioners who participated and devoted their time, knowledge, and energy to creative planning for expanded public service and development of the profession.

Special thanks must be extended to: Susan Schwartz Miller for challenging and encouraging the participants in the keynote address; Linda Hanlon and Dona Wayman for skillfully facilitating general assembly sessions on curriculum and strategic planning; Kathleen Lukken, Cheryl Metzger and Recie Pennell for their effort and courage in developing and presenting sample curricula; Denise Bowen, Nancy Cooper, and Sally Deck for assuming the difficult task of providing reactions to the sample curricula; Connie Edstrom, Michelle Darby, Jane Forrest, Debi McFall, Kathleen Morr, Susan Peterson, Robin Rausch, Joni Self, Jackie Singer, Beth Stolar, Terri Tillis, and Kathy Trilli for enabling the participants to work together in planning and developing strategy; Therese Kopytko, Jackie Singer, Beth Stolar, Terri Tillis, and Karen Trapnell for developing case studies to assist participants in strategic planning activities; and the officers, Board of Trustees and members of the American Dental Hygienists' Association for their continued support of the workshop goals and outcomes.

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INTRODUCTION

Participants in Workshop I expressed consensus on several major issues. They agreed that conditions of society are changing and those changes are dictating development of new approaches to health care delivery. They agreed that adaptability of health practitioners will be critical to the survival of individual "species," and therefore, knowledge based education and practice are essential. They agreed that not only must the nature of dental hygiene education change but the relationship of dental hygiene to other health disciplines must also change. They recognized that the educational preparation of practitioners cannot be confined to long established and narrowly defined standards of length and content, and that an insightful and innovative construction of a new education structure is needed. They identified six major roles of dental hygienists which relate to projections of the future, and would establish dental hygiene as an essential component of the nation's health resources. The consensus on issues discussed in Workshop I provided a philosophic framework for charting direction for the future.

During Workshop II, consensus on future roles and responsibilities of entry-level professional dental hygienists was developed. That consensus reflected participants' commitment to development of broader roles and increased practice options for dental hygienists. More importantly, it reflected affirmation of dental hygienists' commitment to promoting the health of all segments of society in ways which are consistent with societal conditions and needs. Finally, it reflected recognition that dental hygiene is an important health resource, and is gaining recognition for its contributions to society.

The outcomes of Workshop I and II provided the background for deliberations of Workshop III. The goals for the third workshop were to identify the type and scope of curricula required to prepare entry-level professional graduates for changing roles and responsibilities; to identify educational system modifications which will be required to offer those curricula; and to develop strategies for effecting those modifications. Recommendations emanating from Workshop III were transmitted to the officers, Board of Trustees, and the House of Delegates of the American Dental Hygienists' Association.

DENTAL HYGIENE EDUCATION AND PRACTICE WORKSHOP III

PROGRAM

Thursday, February 13, 1986

8:30 - 9:30 AM	WELCOME		Patricia Crane Ramsay, RDH President, ADHA
	BUILDING THE FUTURE: REALIZING, RECKONING, RISKING		Susan Schwartz Miller, RDH, MS
9:30 - 9:45 AM	BREAK		

CURRICULAR PHILOSOPHY AND CONTENT FOR THE FUTURE

			Moderator: Linda Hanlon, RDH, MS
9:45 - 11:45 AM	CURRICULUM PRESENTATIONS		
		#1	Kathleen Lukken, RDH, PhD
		#2	Cheryl Metzger, RDH, MS
		#3	Recie Pennell, RDH, BS
	PANEL REACTION		Denise Bowen, RDH, MS Nancy Cooper, RDH, MS Sally Deck, RDH, MS
	ASSEMBLY REACTION		
11:45 - 1:00 PM	LUNCH		
1:00 - 4:15 PM	CURRICULUM PRESENTATION		
	PANEL REACTION		
	ASSEMBLY REACTION		
4:15 - 5:00 PM	GENERAL DISCUSSION		

Friday, February 14, 1986

STRATEGY FOR CHANGE

	GENERAL ASSEMBLY	Cathy Turbyne, RDH, MS Cheryl Westphal, RDH, MS
9:00 - 4:00 PM	GROUP WORKSHOPS TO DEVELOP STRATEGY FOR IMPLEMENTING CURRICULA FOR THE FUTURE	

(OVER)

Saturday, February 15, 1986

8:30 - 11:45 AM	***REPORTS ON STRATEGY FOR CHANGE***	
		Moderator: *Dona Wayman, RDH, PhD*
10:30 - 10:45 AM	***BREAK***	
10:45 - 11:45 AM	***ASSEMBLY DISCUSSION***	
11:45 - 1:00PM	***LUNCH***	

ACCOMPLISHMENTS AND CHALLENGES: RECOMMENDATIONS FOR FUTURE ACTION

1:00 - 2:30 PM		*Margaret Ryan, RDH, MS*
	ASSEMBLY RECOMMENDATIONS FOR FUTURE ACTION	

KEYNOTE ADDRESS
BUILDING THE FUTURE WORKSHOP: REALIZING, RECKONING, RISKING

Susan Schwartz Miller, RDH, MS
Philadelphia, Pennsylvania

And so we begin this, the third and final, Workshop in a series addressing the future of dental hygiene education and practice. The suggestion for the workshop series originated with the directors of dental hygiene education programs attending the 1983 National Dental Hygiene Director's Conference in Provincetown, Massachusetts and emanated from a concern that the dental hygiene educational system was in danger of being undermined by economic and political pressures and internal inconsistencies. As the directors saw it, a major underlying problem was the lack of national consensus on the long term goals for, and structure of, dental hygiene education. Recognizing that a partnership of educators and practitioners was essential for charting future direction, the directors proposed that the workshops be sponsored by the American Dental Hygienists' Association. ADHA accepted the proposal and a steering committee, whose members were selected to represent different types of entry level dental hygiene programs, was appointed to develop the workshops.

Multiple steps are involved in the planning of an educational program. The relationships between society and the discipline are first explored to develop a philosophy reflecting those relationships. Then, taking into account the future environment in which graduates will function, roles and responsibilities to be assumed are defined. The content, scope, and depth of the program evolves from this definition of roles and responsibilities as does the level and length of education required.

The workshop series was designed to parallel these major steps in program planning, and group process was utilized to allow each participant to express opinions and influence consensus development.

During workshop I, held in July 1984, we heard three presentations which provided the framework for group deliberation and consensus development on the major societal, health care delivery, health care policy, educational and professional issues and trends that will influence the future of dental hygiene. Also identified were the roles that dental hygienists could assume to accommodate projected changes.

Dr. Felix Kaufmann, who is a futurist colleague of Alvin Toffler and John Naisbitt, spoke to the economic, cultural, demographic and technological changes and trends occurring in our society that so we might better understand the reasons for them and how they might impact both education and health care.

Dr. Barbara Kramer, who directs the North Carolina State Health Planning Section of the Department of Human Resources, provided us with information on the changes taking place in our total health care system. Where and how health care is delivered and financed is changing. New technologies and the increasing emphasis on wellness and self-help rather than institutional help will result in more personal responsibility for health and a growing interest in education and preventive services. Consumers, our clients, are and want to be better educated and more aware of their own health and the costs associated with health care.

Dr. Carol Lindeman, Dean of the Oregon Health Sciences University School of Nursing, spoke about a potential collision course between the traditional thinking of health professionals and current societal views.

She shared some observations about her own discipline, nursing, to illustrate what she termed, "a convoluted progression toward becoming an unambiguous profession." A progression made possible by giving serious thought to the criteria for professional status and purposeful movement toward meeting each one. She asked us to reflect on such issues as the ownership of knowledge, self-care, control of practice and scope of practice, out of a conviction that these issues will influence the future generation of professionals in the United States.

She said, "It seems more than apparent that the United States is a rapidly changing society, and that a changing society has changing needs and values particularly in terms of education and health care. It seems more than apparent that in this changing environment, a new definition of professionals and professionalism will emerge and the criteria of the past will serve only partially to define the future. It seems more than apparent that new or emerging health professionals must look to the future, not the past, for answers to their questions; they must look to society, not to other professions, for answers to their questions."

Dr. Lindeman was for me a new "good friend." Good friends help you grow and get better because they tell you difficult things and ask you difficult questions. They also realize that while they can share their insights and experiences and even offer advice, they cannot make decisions for you.

Carol Lindeman asked the difficult questions only we can answer.

Are we ready and willing to take the risks necessary to make our hopes a reality?

What will our future roles look like?

Will dental hygienists in the year 2000 be technical workers or knowledge workers?

Where should our future educational programs be housed?

How long should they be?

What maturity is needed for professional practice; what socialization time and experiences?

What is the scope of general or liberal arts knowledge and professional knowledge and skill necessary for assuming future roles?

What credentials would entry-level graduates need for the profession to achieve the social and political clout necessary to control our practice and scope of practice?

Consensus on several major issues was expressed by participants of Workshop I. Conditions of society are changing and those changes dictate the development of new and innovative approaches to health care delivery. In a highly innovative and information based society the ability to adapt to change is critical to the survival of any discipline, and knowledge based education is an essential element in adaptability. There was a clear mandate for knowledge based education, and recognition that we must move away from totally job-oriented education. Dental hygienists should be knowledge workers and dental hygiene education should be knowledge based rather than technically oriented.

It was agreed that the entry-level educational preparations of future practitioners should not be bound to long established or narrowly defined criteria for content or length. Instead, the insightful and innovative construction of a new educational structure is needed.

There was unanimous agreement that future entry level education should be more than two years of college. The vast majority of participants agreed that baccalaureate degree curricula should be the future entry level for practice and that the degree granted should be in dental hygiene. It was agreed that there is an inseparable relationship between recognition as a profession and the educational preparation for a discipline.

The need to develop new or modified roles for dental hygienists was seen as a priority if dental hygiene was to become established as an essential component of the nation's health resources.

The workshop participant's concept of the future entry level professional dental hygienists was defined in terms of the roles graduates would need to fill. They are: administrator/manager, change agent, clinician, consumer advocate, educator/health promoter, and researcher.

Workshop I provided a philosophic framework for charting direction for the future. The goals for Workshop II included developing the role definitions and identifying the cluster of role responsibilities appropriate for the entry level professional dental hygienist.

To help Workshop II participants consider additional issues that bear directly on future dental hygiene roles, five panelists were asked to present viewpoints regarding the economic, political science, legislative, consumer, and dental hygiene issues which have implications for our decision-making process.

The economist advocated the development of marketing efforts directed toward the business community as a means of expanding the demand for and use of dental hygiene services. A business base independent of, or only loosely connected to, dental practices is an option for economic development and the establishment of a sound economic base.

The political scientist reminded us that in a complex political and policy environment with many competitors and scarce resources, advantage often goes to those who first see or define a need and then act to position themselves to fill it.

The consumer advocate told us that the four major consumer priorities were quality, quality, quality, and honesty. The organization of a health care system that is self rather than consumer oriented is a major consumer concern. Also of concern is the cost of and access to services.

The legislator related ways in which dental hygiene associations can work to acquire public support, manage the legislative process and influence legislative groups in pursuit of their causes and objectives. A cohesive internal structure, good organization, strong leadership, and reasonable financing are important. A unified, positive, and competent image is paramount.

The dental hygienist panel member identified various skill and role competencies that future practitioners might bring to a range of settings and envisioned the dental hygienist of the future as one who is flexible, multifaceted in education and ability, and able to relate collaboratively to all professional groups.

The deliberations during Workshop II resulted in consensus regarding roles and responsibilities and reflected a commitment to the development of comprehensive roles and expanded practice options for the dental hygienist.

In this workshop we will begin to identify the type and scope of curricula required to prepare entry-level graduates for these changing roles and responsibilities.

Looking toward the future is not a simple task and certainly should not be undertaken by those innocent of the issues. In the previous workshops we have had the opportunity to hear a variety of speakers address issues fundamental to defining a direction for the future. It has become clear that as we begin to build our future we must, as a first step, come to the end of denial. Our thinking, our attitudes, and consequently our decision making must catch up with the reality of things. If we are out of touch with or naive about the present, we risk jeopardizing our future.

Even though our applicant base has been eroding in numbers and quality and we have been concerned about maintaining our educational programs, even though we have felt restrained by restrictive practice acts, exploited economically, and limited by a lack of practice options, we have denied that our viability as a discipline was in question. This inability to see and our penchant for denying what we see may, however, be only natural. The truth can be painful and threatening. Dental hygiene has served us so well and for so long that many of us have chosen not to think the unthinkable -- that dental hygiene might be on the endangered species list. I once heard Albert Ellis say, "Reality may be tough, unpleasant and lousy, but that's too bad. It's real."

We have expressed the ideology of professionalism and assumed some of the activities and behaviors identified with that ideology, yet we cannot promise our entry level graduates professional status or occupational prestige. We differ from the true professions in many ways. Our entry level training is shorter, our status is less legitimized, we have not really developed a specialized body of knowledge and we have less autonomy from supervision and societal control.(1) I wonder if some of the claims we've been making regarding our "professional" status and the public and self-image we've tried to build around that claim aren't self-defeating. Even when we know objectively that we don't meet societal criteria for a profession, we work to sustain a professional self-image. Why? I'd suggest that it has to do with the fact that the only other alternative would be to think of ourselves as non-professionals and we don't seem to want to do that. At this time in our history we are one of the allied health semi-professions. We have to acknowledge our position, to seek to improve our status, rather than trying to pass for something we are not.(1)

That we have made progress is indisputable. That we have a great deal more work to do in order to clarify our sense of purpose and future direction is equally indisputable. We are on the move. Our self-image, both present and future, is changing. We've recognized the need to be more assertive, more independent and more innovative.(2) We've become less concerned with serving the needs of the dental profession and more concerned with securing the freedom to serve the needs of society at large. We have begun to define our care regime as unique, to carve out the roles and responsibilities that will define a practice called dental hygiene. We are using labels for these roles that are changing the way we think about the knowledge and skills needed to achieve them. We are on the road to becoming an "unambiguous profession."

We are here to lay the groundwork for an educational structure which would support that goal. We have recognized that education is both a vehicle for professionalization and a strategy to raise the status of dental hygiene by making possible the achievement of a unique dental hygiene role in the division of labor that exists in our health care system. Our ability to coalesce around professional and educational goals can be a source of power. Without internal cohesiveness, we are powerless in the face of external pressures. Our external challenges will not diminish. And we have many.

At a time when we have agreed that we value broader and knowledge based education we are losing our university base and are at risk of being pushed into a technical orientation. In recent years, for instance, a number of university based, dental school affiliated, programs have closed, been scheduled to close, have drastically reduced class size, or have been suspended indefinitely. Last November the push became a shove when several resolutions aimed at restricting dental hygiene education and practice were passed by the House of Delegates of the American Dental Association. Those resolutions are:

> "RESOLVED, that the purpose of dental hygiene education is to train a dental hygienist to provide patient care under the direction and supervision of a dentist, and be it further
>
> RESOLVED, that the American Dental Association supports the education of the dental hygienist in the two year training programs and believes that two years of study are adequate to prepare a dental hygienist to perform dental hygiene services.

> RESOLVED, that the American Dental Association supports the concept of providing the public with the highest quality comprehensive dental care by placing the ultimate responsibility for patient care with the dentist, and be it further
>
> RESOLVED, that the American Dental Association opposes all forms of unsupervised dental hygiene practice."

Also passed was a resolution revising the ADA's 1973 definitions of supervision. Gone is the term and definition of "General Supervision", the centerpiece of much dental hygiene legislative activity in recent years. Left are "Indirect, Direct, and Personal Supervision". The ADA has taken direct aim at our goals for role delineation and the educational preparation that would allow for practice in new roles. How long are we going to remain subjugated to an organization that defines dental hygiene in terms of a dental scope of practice, that denies dental hygiene autonomy in decision-making or practice, when in reality we are held legally responsible for our actions and are at risk for independent malpractice suits?

There's more but I don't want to spend too much of our time focusing on ADA's agenda which is traditional, territorial, and myopic. Organized dentistry wants us to remain dependent, dutiful, and degreeless when we want to be progressive, powerful, and professional. It is time that our accumulated energies be directed toward establishing a consensus on our own agenda. It's not a question of staying where we are anymore -- that's not an option. "Maintenance of the status quo at any level fosters nothing but professional regression".(3) We can and should recognize barriers to developing or implementing our goals, but we should not let them entomb us in inaction.

There are many issues on our developing agenda which require our attention. We are addressing the reorganization of dental hygiene education and dental hygiene practice. Establishing a new agenda means change for everyone, which is our one common denominator.

It is unlikely that educational standards on which we can agree currently exist. Their definition, then, should be a priority on our agenda. We must work to establish uniform educational standards for future entry level practitioners so that they will be equal to the demands of their practices.(4) Once we have done this we can work to understand them better, experiment with them, develop them further, evaluate them, and interpret them to others.

We have come to consensus that dental hygiene education should be knowledge based rather than technically based, that "...preparation for a profession must be an intellectual as well as practical experience".(5) How will this be translated into the establishment of an educational system that provides not only skills and credentials but prepares graduates who can be activists, who can speak out on behalf of the clients they serve, who can function in the political arena, who can participate in building a dental hygiene body of knowledge, who can assume leadership positions not only within dental hygiene, but out there in the wider world of health care delivery?(2)

Those of us who are educators know we will have the responsibility to produce graduates competent to fill new roles. The basic concepts and technical skills that will need to be acquired for the future are challenging and demanding. Learning any set of multifaceted skills is a long and slow process. In the beginning students are primarily absorbed with learning new techniques, new facts, and novel concepts. Only later, as the student matures and as socialization takes place, does the need for rational thought and the critical evaluation of actions become a value, yet the principles underlying them need to be integrated throughout the curriculm.(6)

Professional education involves taking on the skills and values of a particular discipline. The nature of an educational program exerts a powerful effect upon the professionalization process because attitudes about roles and the performance of roles are shaped in the educational environment. I think we should recognize and plan for this outcome of professional education. I also think it lends support to the idea that entry level baccalaureate degrees be in dental hygiene. We cannot relinquish the education of our future practitioners to other disciplines, not to dentistry or the allied health professions. How will they be socialized into their roles? How will they be mentored to develop professionally? Who will support dental hygiene concerns or provide educational experiences that allow for the application in dental hygiene roles?(7)

We need to plan creatively for the educational mobility of all hygienists who will need baccalaureate degrees in dental hygiene. If we have come to see as necessary and to value the baccalaureate degree in dental hygiene we must provide both innovative and expanded learning opportunities in the design of degree programs. We have envisioned new, expanded, and key roles for the dental hygienist of the 21st century. In order to fill these roles we must be prepared as a group and prepare all members of our group.

This Workshop has been structured to generate discussion and to challenge our thinking about the curriculum strategies that would make possible the acquisition of the knowledge and skills necessary for dental hygiene practice in the future.

This is a place of encounter, a location for experimentation, for creativity, for realizing, reckoning, and risking as we prepare for the future.

We have begun the difficult, but exciting, task of working to understand the past and present so that we might illuminate our future. We all have a stake in what is happening here. I would hope that our stakes are planted -- to paraphrase a comment made by Carol Lindeman -- not as hitching posts to the past or present but as guideposts to the future.

In closing I want to recall an article which appeared in Dental Hygiene in 1974, nearly 12 years ago. The article is, "The Maturation Crisis of a Profession" by Ursula Schwerin. In 1974 Schwerin was saying that "...the needs of the public rather than a power struggle between dentist and hygienist should constitute the determining factors for future growth patterns for the dental hygiene profession". She went on to suggest that the hierarchy that has existed in the dentist-hygienist relationship is akin to a dependent parent-child relationship and is not conducive to full professional development of the hygienist. In a way, Schwerin submits, hygienists have given consent to this non-productive way of relating because, "It could not exist if we did not permit it".

Depending on who you read, dental hygiene is at least eighty years old. As the occupational child of dentistry she's been living at home all these years. People are beginning to talk. I think that it is high time she moved out of the house and got her own apartment. What I want to know is, where is she going live and how is she going to pay the rent?

I wish you happy house hunting.

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Curriculum Panel

Three dental hygiene educators, one each from a university and dental school, a four-year college and a community college prepared sample curricula. They were asked to develop a curriculum which incorporated and integrated responsibilities of each of the six roles identified at Workshop II as the entry level of the professional dental hygienist in the 21st century.

The presenters developed the philosophy needed to support the curriculum. This statement set the stage and provided the rationale for the curriculum.

After developing the philosophy, curricular goals were defined. The goals were necessary to provide focus for the curriculum. They served as a frame of reference for determining how to weight the subject or content areas of study.

The presenters were provided a list of content areas for each of the six roles and given the opportunity to select from, modify or expand the content areas. The knowledge and skills levels were then defined in each of the areas as the curriculum was developed.

In addition to the curriculum presenters, three dental hygienists were selected to make formal oral presentations critiquing each of the three curricula. The reactors were representative of a community college, a university and dental hygiene practice.

They were asked to consider specific questions. Does the curriculum include preparation for each of the six roles identifed as minimal entry level for the professional dental hygienist in the 21st century? Is the curriculum built to reflect the futuristic concepts presented in Workshops I and II? Do the curricular philosophy and goals support the curricular content and organization? Are the content descriptions inclusive and based on logical sequence for knowledge/skill learning? Is the time allocation for content emphasis realistic? Were all the questions included in the Guidelines for Development of Curricular Model adequately addressed?

At the conclusion of the critiques the reactors included recommendations to strengthen the curricula.

SAMPLE CURRICULUM: FOUR-YEAR COLLEGE SETTING

Kathleen M. Lukken, RDH, PhD
Associate Professor and Director of Dental Hygiene
Weber State College
Ogden, Utah

Good morning. My purpose today is to present an overview of a sample dental hygiene curriculum in a four-year college setting. Those of you who preregistered for this workshop have already received a copy of this curriculum, and therefore have had an opportunity to read it either in some detail, or rather briefly, depending on your inclination. Going on the assumption that you are somewhat familiar with the contents of this curriculum, I have decided not to present a detailed, semester-by-semester description of the curriculum, or a comprehensive review of individual course topics and outcomes. Instead, I will review key aspects of this currciculum in terms of its philosophy and goals, and their relationship to the role-preparation courses which have been included.

This currciulum is based on serveral assumptions which were stated in the previous two education and practice workshops. These assumptions are based on the idea that the future will hold many changes for the health care delivery system, in terms of its patients, its practitioners, and its practice settings. It is assumed that the patient population will change; that there will be more people over 65 years of age, and more of this adult population will retain their teeth. In addition, more groups of people who were formerly institutionalized for their medical care will probably be living in residential homes and other community centers. Consequently, these people will probably be coming to private dental offices for treatment. It is also anticipated that dental delivery settings will expand in number and variety to include more large group practices, mobile outreach clinics, and franchises; and more preventive programs in public or semi-public settings.

What do all these changes mean for the hygienist of the future? Well, for one thing, the future is getting more complicated and is probably likely to continue to change at an ever-increasing rate. Therefore, educational programs should be designed to prepare these hygienists for this complex and changing environment. In order to cope with a fluid and complex future, what should students be prepared to do?

First, they should be taught how to learn, so that the process of learning becomes an end-product in itself. Second, students should be taught how to think and reason, so they don't have to be told what to think. Third, they should be taught how to solve problems and evaluate alternate solutions. Fourth, students should receive assistance in acquiring and defending a set of values based on sound ethical principles. Fifth, it is also important that a curriculum provide students with the theory and skills to use the computer. The computer is going to be to the 21st century what the automobile is to the 20th century. We won't be able to imagine what it was like to function without it.

These assumptions were the basis for the philosophy of this curriculum. A philosophy statement, in turn, sets the stage and provides a rationale for the curriculum which justifies various curricular emphases. The philosophy of this curriculum is based on a multi-tiered approach to education: it recognizes that the needs of society, dentistry, dental hygiene and the individual student are intertwined.

First of all, society needs citizens who are familiar with all aspects of the social and physical world in which they live. These citizens must be skilled in the application of intellectual concepts to the complicated social problems of their times. Furthermore, they must be able to respond to a changing society with both an intellectual curiosity and a sense of moral responsibility.

Dentistry, a microcosm of society, needs practitioners who are knowledgable of the psychosocial and biophysical parameters of dentistry. These dental practitioners must be able to apply behavioral and biological science concepts to meet changing societal needs. In addition, all practitioner behavior must be governed by a moral code of ethics which benefits both dentistry and society.

Dental Hygiene, fulfilling an integral role in the concept of the dental health team, requires practitioners who have been instructed in the psychosocial, biophysical, and technical elements of dental hygiene practice. These dental hygiene practitioners should be able to expand current parameters of knowledge, as well as to apply existing behavioral and basic science concepts to specific problems. Dental hygienists must be able to effectively interact with members of society and with other health care professionals. Finally, dental hygiene practitioner behavior should be guided by a moral responsibility to dental hygiene, to dentistry and to society.

Therefore, educational programs must be designed to produce individuals who are capable of meeting the needs of society, dentistry and dental hygiene. It is the role of these programs to educate individuals, to facilitate their maximum development, and to enlarge their opportunities. Educational programs should create the intellectual atmosphere to produce persons who are literate, knowledgeable of public affairs, motivated to become life-long learners, capable of solving problems and making decisions, and whose behavior is guided by an internalized code of ethics.

The philosophy statement of this model curriculum also describes an ideal learning process, and is based on the following andragogical principles of learning which have been defined by Malcom Knowles:

1. Learners are self-directed organisms rather than teacher-oriented.
2. Learners' experiences are rich resources for learning.
3. Learners exhibit a readiness to learn which develops from the life tasks and problems which they have encountered.
4. Learners' orientations to learning are task-or problem-oriented, rather than subject-oriented.
5. Learners are motivated to learn more because of internal incentives and curiosity, and less because of external rewards and punishment.

Incorporating these principles in a philosophy of education means that within the educational process, learning occurs best when educational activities are goal-directed, significant for the student, and conducted in an environment conducive to learning. Goal-directed activities should be formulated by both the educator and the student through a process in which the needs of the student, the educator, the subject matter, the institution and society are taken into account. Learning activities become more meaningful when students actively participate in the learning process, and when this process is related to and makes use of the experiences of the learner. Finally, an environment conducive to learning should be structured to include mutual helpfulness, freedom of expression, mutual trust and respect, physical comfort, and acceptance of differences.

The next step in designing this currciulum was to develop curricular goals. Goal statements indicate what the curriculum will prepare the graduate to do and also assist educators in determining whether or not the curriculum is successful. There are six goals for this curriculum. They are to provide students with the:

1. biophysical, psychosocial, and dental science knowledge requisite for a comprehensive understanding of dental hygiene practice; 2. technical skills, both fundamental and advanced, essential to the practice of dental hygiene; 3. reasoning, judgment and leadership skills necessary to develop solutions to problems, to implement these solutions, and to evaluate the effectiveness of these solutions; 4. theoretical bases, and research and communication skills necessary for the acquisition, advancement, and dissemination of dental hygiene knowledge; 5. interaction skills, both verbal and nonverbal, to effect

change: and 6. moral habitude requisite for the effective performance of responsibilities within dental hygiene practice and within society.

The first curricular goal indicates that this curriculum should provide dental hygiene students with a comprehensive background in the biophysical, psychosocial, and dental sciences. Of the 135 required credit hours, approximately 55 hours or 40 percent, are spent on these background courses. Semesters I and II, devoted primarily to the biophysical sciences, biochemistry (see attached curriculum outline). A course in general pathology, called Pathophysiology, is scheduled in Semester III. Psychosocial science courses are taught in Semesters I through V, and include courses in English, psychology, speech, nutrition, sociology and college algebra. Most of the dental science courses are offered in Semesters III, IV and V. These courses include:

1. Oral Tissues and Structures, which is an integrated approach to the concepts of oral histology, dental anatomy, and head and neck anatomy;
2. Oral Diseases, which includes material on oral pathology and an introduction to periodontology;
3. two additional courses in periodontology; and
4. two courses entitled Oral Medicine I and II which present pharmacologic and pain control principles and procedures to students.

Building on this foundation of biophysical, psychosocial and dental science concepts are courses in clinical dental hygiene, the health sciences, and other support areas. These remaining 80 credit hours are designed to prepare students to function in the multi-faceted role of a dental hygienist who fulfills responsibilities in six (6) areas: clinician, researcher, administrator, health promoter, consumer advocate, and change agent. The proportionate weight of these six (6) roles within the curriculum reflects anticipated changes which will occur in the future within the health care delivery system, in general, and within dentistry and dental hygiene, specifically.

It is anticipated that clinical responsibilities will continue to be the primary, though not exclusive, focus of a dental hygienist. Approximately half of the 80 role-preparation credit hours are devoted to preparing students to deliver clinical dental hygiene services. Clinical patient contact courses are scheduled in all but the first semester. The first semester includes an orientation course which provides students with an introduction to patient care issues such as professionalism, interpersonal communication skills, and patient confidentiality, prior to actual patient contact. Clinical courses have been designed to reflect anticipated changes in health care needs, in the consumers who are seeking care, and in the delivery of care. These courses will enable students to provide a broad range of periodontal and other clinical skills to a wider array of medically compromised patients in a variety of health care settings, both on and off campus, in a safe, efficient, and legally responsible manner. For example, in addition to basic prophylaxis skills, students will be taught to place and remove sutures; to assess occlusal imbalances and TMJ dysfunctions; to fabricate mouthguards and splints; to provide orthodontic services, such as placing and removing archwires and bands; and to provide clinical care to special population groups, such as geriatric, homebound, physically and mentally handicapped, hospitalized, and institutionalized individuals. This preparation for the clinician role is a reflection of the second and sixth curricular goals which state that students should be provided with the fundamental and advanced technical skills necessary for dental hygiene practice, and that students should be ethical practitioners.

In addition to demonstrating a broader array of clinical skills, the dental hygienist of the future will assume more responsibilities in both administrative and research areas. Approximately 30 percent of the role-preparation courses are equally divided into these two (2) areas. To fulfill responsibilities, students must acquire the knowledge and skills needed to obtain and coordinate human, financial and physical resources. This information is included in courses on administrative and economic theory, and on grantsmanship, which are scheduled in the sixth and seventh semesters. As a researcher, a dental hygienist must be competent in the areas of research design and statistics. Courses on these content areas, taught in the fifth and sixth semesters, include material on experimental and nonexperimental research approaches, measures of central tendency and variability, and parametric and nonparametric statistical analyses. The curricular emphasis for the administrative and research roles are reflections of the third, fourth and sixth goal statements which focus on reasoning, judgment and leadership skills, on research and communication skills, and on ethical practitioner behavior.

The other three (3) roles are equally represented in the remaining 20 percent of the curriculum. It seemed that many of the role responsibilities of consumer advocates, change agents and health promoters overlapped. Therefore it is difficult to assign the courses which have been designed to prepare students for these three roles, solely to one role rather than another. These role preparation courses are scheduled in the sixth and seventh semesters. As consumer advocates, dental hygienists must be able to assess patient needs and to coordinate the resources necessary to meet these needs, so patients do not get conflicting or ineffectual advice. Students learn to do this in courses which cover the legal aspects of dental hygiene, and material on health care delivery systems. A change agent must be proficient in the skills of negotiation and persuasion, and must be able to recognize that when you cannot go around a problem, or through it, you had better negotiate with it. To do this, they must be aware of health counseling theories and techniques, and also be familiar with health care attitudes and behaviors. Finally, we come to the role of health promoter. A health promoter should assist consumers in attaining, regaining, or maintaining their health. Students learn to do this in courses which focus on dental epidemiology and on principles of individual and group instruction. The emphasis for the roles of consumer advocate, change agent and health promoter are found in the third, fifth, and sixth curricular goals. These goals identify the necessary reasoning, judgment, leadership and interaction skills, and the requisite ethical behavior for the effective performance of these three roles.

The role-preparation courses in the curriculum have been designed to allow for the maximum application of didactic concepts in practical situations. The more students are able to apply concepts in school, the more prepared they will be for "real life" after graduation. For example, students are provided with lecture information on root morphology in a dental science course in Semester III, while basic instrumentation skills are introduced in a clinical course that same term. In the courses on oral diseases and periodontology, students are required to present clinical patient case studies which illustrate selected didactic concepts of oral diseases. To reflect the increasing importance of the computer in the future, this curriculum includes a course on computers in health care. Practical computer applications are included in subsequent courses in clinical dental hygiene, administrative and economic theory, statistics and grantsmanship.

Finally, a practicum course which integrates the didactic, laboratory, and clinical components of previous courses and which allows the student to function as a generalist with specific responsibilities in the six (6) roles, is scheduled for the final term. This practicum course gives students an opportunity to pull together all of their previous knowledge and experiences. In this course, each student spends one (1) hour a week in a seminar/group discussion, and 32 hours each week as an extern in an off-campus clinical site. These sites include: hospital wards; prisons; nursing homes, medical or psychiatric institutions; public or private schools; detention centers; drug rehabilitation centers; dental franchises; large dental practice settings; small, remote-site dental practice settings; Indian reservations; public health programs; residential job skills training programs; wellness or health counseling centers; and adult or pediatric day care centers. As a result of this practicum experience, each student is expected to describe and evaluate his or her competence in fulfilling each of the six (6) roles, and to complete a research report on one (1) of the six (6) roles which is suitable to submit for publication.

This curriculum is best described as a competency-based approach to instruction. This approach includes the identification of specific behavioral objectives, learning activities, and evaluation methods in the cognitive, psychomotor and affective domains. A variety of learning activities and strategies should be employed to assist students in acquiring the skills essential for dental hygiene practice. These activities could include lecture, demonstration, simulation, role-playing, group discussion, guest speakers, films, computerized instruction, and tutorial assistance. Equivalency examinations and self-paced learning modules could also be used to meet the needs of students with non-traditional learning experiences or with unique learning rates and abilities. Evaluation strategies, designed to insure student competence, should include written and clinical process and end-product assessments. Videotaping student-patient interactions in the clinical and selected health science courses is an evaluation tool which assists students in developing and utilizing self-assessment skills.

Overall, the organization and the teaching methods of this curriculum should assist students in the clinical application of knowledge, and in the acquisition of risk-taking and decision-making skills. The curriculum has been designed to reflect the increasingly complex and interdisciplinary nature of the health care delivery system, and to provide the dental hygiene student with the skills and experiences necessary to assume roles of leadership and responsibility within dental hygiene.

OUTLINE

SEMESTER I

	Credits	Lec.	Lab.	Clinic
+Anatomy	4	3	4	
+Chemistry	4	3	4	
+Biology	3	2	4	
+Psychology	3	3		
+English	3	3		
*DS-Orientation to Dental Hygiene	1	1		
Total	18	15	12	0

SEMESTER II

	Credits	Lec.	Lab.	Clinic
+Physiology	4	3	4	
+Biochemistry	4	3	4	
+Microbiology	3	2	4	
+English	3	3		
+Physical Education	1	1		
DS-Dental Hygiene I	3	2	3	1
Total	18	14	15	1

SEMESTER III

	Credits	Lec.	Lab.	Clinic
+Nutrition	2	2		
*+HS-Pathophysiology	3	3		
DS-Oral Tissues and Structures	4	3	4	
DS-Oral Diseases	3	3		
DS-Radiology I	1	.75	.75	
DS-Dental Hygiene II	5	3	3	5
Total	18	14.75	7.75	5

SEMESTER IV

	Credits	Lec.	Lab.	Clinic
+Sociology	3	3		
+College Algebra	3	3		
DS-Radiology II	1	.75	.75	
DS-Oral Medicine I	3	3		
DS-Dental Hygiene III	5	3		8
DS-Periodontology I	3	3		
Total	18	15.75	.75	8

SEMESTER V

	Credits	Lec.	Lab.	Clinic
+Speech	3	3		
HS-Computers in Health Care	3	2	4	
DS-Dental Hygiene IV	5	2		12
DS-Oral Medicine II	2	1	4	
DS-Periodontology II	3	3		
Principles of Research Design	2	2		
Total	18	13	8	12

SEMESTER VI

	Credits	Lec.	Lab.	Clinic
+Physical Education	1	1		
HS-Administration I	4	4		
HS-Sociology of Health	2	2		
DS-Dental Hygiene V	5	2		12
Principles of Statistical Analysis	3	3		
Educational Principles	3	3		
Total	18	15	0	12

SEMESTER VII

	Credits	Lec.	Lab.	Clinic
HS-Administration II	3	3		
HS-Health Care Delivery Systems	2	2		
HS-Health Counseling	2	2		
DS-Dental Hygiene VI	5	1		16
DS-Dental Epidemiology	2	2		
DS-Legal Aspects of Dental Hygiene	2	2		
Grantsmanship	2	2		
Total	18	14	0	16

SEMESTER VIII

	Credits	Lec.	Lab.	Clinic
+Electives	0-9			
DS-Practicum	9	1		32
Total	9-18	1	0	32

+Denotes courses which are required by current accreditation standards or are general education in nature and, therefore, satisfy graduation requirements of the institution

*DS-Denotes courses taught by dental hygiene faculty to dental hygiene students

*HS-Denotes inderdisciplinary health science classes

Reaction Paper: Sample Curriculum in a Four-Year College Setting

Denise Bowen, RDH, MS

As an introduction to all three reaction papers which I will be presenting today, I ask every participant in this distinguished audience of dental hygiene representatives to stretch your imaginations and conceptualize the year 2000, the dawn of the 21st century and beyond. Do not be concerned with a curriculum that could be implemented, for it would be outdated long before its time.

Let us assume that a recognized, approved efficacious anti-plaque agent will be available, and that health care consumers are demanding preventive intervention strategies and self-care programs. I submit to you that the dental hygienist of the future will be living and working in a much different world than today. It is a unique challenge, and certainly an exciting opportunity to be able to create a curricular model, a philosophical framework for educating the dental hygienist of the future.

With this preface in mind, I must reiterate a valuable message from the opening statement of the philosphy presented by my colleague, Kathleen Lukken, regarding today's changing society and the need for its members to be able to respond with "both intellectual curiosity and a sense of moral responsibility." Further, it was stated that "dental hygienists must be able to effectively interact with members of society and with other health care professionals." To these ends, I would agree that dental hygiene educational programs will need to be designed "to create the intellectual atmosphere to produce persons who are literate, knowledgeable of public affairs, motivated to become life-long learners, capable of solving problems and making decisions, and whose behavior is guided by an internalized code of ethics."

To these ideas, I would add that dental hygiene students of the future will need increased emphasis in the social and behavioral sciences, even beyond the emphasis projected in this first sample curriculum. Dental hygiene graduates of the 21st century need to be able to develop awareness and influence attitudes and behaviors of both the individual and the community at large towards achieving optimal levels of health and social well-being. Our biggest challenge will be to change unmet needs for oral health services to demands for self-care and preventive professional services.

The six stated goals are, of course, crucial to support of the stated philosophy. These goals should be expanded, however, to include emphasis in the following areas:

1. responding to the demands of the "information age,"
2. understanding the relationship of societal, cultural, economic and political trends and the impact of changing demographics on oral health promotion and delivery of services,
3. enhancing requisite skills and knowledge in the areas of advocacy, mass media, legislation and political processes, and
4. providing necessary background in health planning, motivational psychology, management and organization.

As a case in point, to illustrate the importance of filling voids in these crucial areas, I quote from a presentation by Dr. Lois Cohen of the National Institute of Dental Research to the Canadian Conference on Dental Hygiene Research in 1982.

"If one accepts that the greatest burden of work for dental professionals has been the prevention, diagnosis and treatment of dental decay, and that those tasks have primarily been assigned to the dentist, then it follows that a decline in the burden of workload will mean some reassessment of duties, not only for the dentist, but for all supporting personnel. Thus, the division of labor among oral health professionals, and most importantly the addition of new heretofore unaddressed tasks in areas related to oral health promotion outside of the dental facility, could become the 'hot' topics in the future."1

These proposed additions to the goals listed would address the emerging role of the dental hygienist in this new arena of health promotion in alternate delivery systems and settings.

With continual reference to these prefacing comments, as well as to projections for the future of health care, several strengths of the curriculum can be highlighted, and some suggestions for improvement can be offered.

The core of health science courses providing knowledge in administration, computer technology and applications, sociology of health, health care delivery systems, and health counseling are appropriate for preparation of the future dental hygienist. These courses should be augmented with a stronger prerequisite base in multi-cultural studies, foreign language, gerontology, communications, economics and political science to provide the theoretical foundation that is critical to becoming "knowledge workers" rather than "technology appliers."2 Dental hygienists of the future will need a broad based education because it leads to flexibility needed to adapt to changing societal values, to understand barriers to behavioral change, to provide special attention unique to the indigent, minorities, elderly and handicapped, and to develop the economic models and political processes required for implementation of health promotion programs. Addition of these courses would enhance the components of this curriculum devoted to the roles of consumer advocacy, health promotor and change agent -- the three roles which speakers from the first two of this series of workshops on the future of dental hygiene education and practice presented as the mainstream of the future.

In the dental hygiene core of courses, the aspects of dental epidemiology, the "Dental Hygiene VI" course highlighting special population groups and interdisciplinary health care, and the practicum with its array of site offerings should be lauded. It seems however, that it would require more than one semester to meet the practicum objectives. Planning, implementing and evaluating a small scale research project or effective intervention strategies most certainly warrant a full year practicum. This experience could be concommitant with some coursework, or extended into a summer session to more realistically accomplish the goals.

The clinical component of the curriculum may require careful evaluation in terms of projections for the future. If we are predicting the development of an effective antimicrobial agent, computers capable of diagnosis and x-ray interpretation, and increased demand for preventive services and self-care, to name a few of the projections, we will need greater emphasis on these clinical parameters. Less training will be required in the more technically-oriented subject matter (e.g., dental materials, restorative procedures, radiology, and expanded functions.)

The proposed research-related courses seem to be oriented toward training the beginning researcher/grantsman. We must proceed cautiously with the research component of the curriculum remembering that undergraduate students need to learn to value research, to be introduced to the scientific method and research design, to be able to use and critique literature, and to develop a basic understanding of statistical principles. However, it may be unrealistic to expect that they could be prepared to compete in the research arena.

I remind you of Dr. Lindeman's advice concerning graduate education and research in her presentation at Workshop I in Denver. "Create a systematic plan for developing graduate education in dental hygiene and carve out a statement of philosophy or of goals for research in dental hygiene."3 She raised two other critical questions. What research skills must be acquired? And, as change agents in a male dominated health care system, what credentials do dental hygienists need to give them social and political clout?

Since scholarly research is inseparably linked to the qualifications of the investigator, the strategic importance of developing a research orientation which is credible to the outside community will require that dental hygiene give the highest priority to planning for the development of human resources capable of conducting research. While appreciation of research, and a basic understanding of the scientific method is essential at entry level, we will need special role preparation at the graduate level in the area of research to be competitive with other recognized investigators. This suggestion is consistent with the Workshop I group consensus that dental hygiene graduate education focus on role development, and include a discipline specific research component.

It is evident that the length of the curriculum and granting the baccalaureate degree in dental hygiene are appropriate when considering depth and breadth of educational content. Although there has been some controversy in the past regarding entry level, it was clearly decided at the preceeding two workshops that two years is insufficient, and the large majority supported the baccalaureate degree for entry. Although it was premature to make any final decisions regarding this issue prior to defining curricular content, it seems crystal clear at this point that a four year discipline-specific degree will be necessary to prepare graduates for the six roles defined at Workshop II in Louisville.

Finally, I would applaude the author's comments relevant to suggested teaching-learning strategies. Dental hygiene education should strive to foster self-assessment, risk-taking, decision making and leadership skills. The curriculum also should provide for non-traditional learning experiences, practical application of knowledge and an environment conducive to learning.

References

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2. Dental Hygiene Education Workshop Proceedings, Denver, Colorado, July 22-23, 1984, p. 30.

3. Lindeman, C.A. "Higher Education and the Health Professions," Dental Hygiene Education Workshop Proceedings, Denver, Colorado, July 22-23, 1984, p. 28.

Reaction Paper: Sample Curriculum in a Four-Year College Setting

Sally Deck, RDH, MS

Introductory Remarks

We must keep in mind the fact that we are looking at the twenty-first century and into the future. Something that we can't definitely describe right now, but must use our imaginations as much as possible to project.

It is always interesting to review curriculums on paper. If you have been involved in looking at programs, you know that reading about a curriculum and then discussing it with somebody gives you additional information and a very different point of view. So it's interesting to hear the presentations today after we have written our reactions to the printed versions of the curricula.

I'm glad I didn't get asked to do the "A" part of this job, to write the curriculum. All of these people did a wonderful job and they didn't have an easy task. When I was first asked to do this, I said to myself, I'm glad they didn't ask me to write the curriculum. After began to evaluate the curricula, I wished I hadn't been asked to do that.

The process I followed in my review, was to look at the philosophy, then the goals or objective statements, and then the curriculum as a whole. I did not attempt to rewrite the curriculum, but, in an overview, will try to compare the curriculum with the decisions for the future from the previous two workshops.

The Philosophy for the four-year college non-dental school curriculum reflects a relationship between society and dental hygiene. It applies behavioral and biological sciences and a moral code of ethics. Perhaps it needs to emphasize more, the personal and humanistic values in the promotion and provision of health care in a technological society.

The philosophy encourages greater independence and increased decision making responsibilities for dental hygiene students, thus supports previous Workshop comments regarding improving the work status for this female occupation. The curriculum needs to follow, and allow for strong application of, this philosophy.

A literate public affairs conscious and motivated learner is emphasized. Our previous Workshops suggested that we further identify ourselves as knowledge workers, partners with consumers, research oriented and extended health promoters in a disease prevention role.

Although not something directly described and recommended in Workshop I and II -- this presenter's last paragraph is admirable and I personally believe that it is good to have this in writing for faculty and staff unity of purpose, and for students to understand their role and participation in the program.

Finally, as determined at the previous Workshop, I would like to recommend that this future curriculum should have a philosophy that states that we will be 1) preparing for technological advances in providing services, 2) responding to a more informed and participatory patients/consumers, and 3) learning with and practicing with other health care providers.

The goals for this curriculum include good statements about skills and knowledge to be develped by students. It would provide more direction for the curriculum if the philosophy and goals identified the six roles and described their application to the future society and health care delivery system as described in the Workshops. (i.e. aging society, minority increases, institution and labor based health care, consumer participation, new technologies available, and disease eradication).

The curriculum is at the college level, granting a bachelor of science degree and the length is four years. The design includes higher education courses in the arts and sciences as well as dental hygiene courses. Our presenter speaks of starting with a foundation curriculum and then developing further into the six future roles.

This is a curriculum that describes medical/dental knowledge and dental hygiene technics as we know them today. A portion does touch on people care, health promotion, the six roles, and a knowledge basis for health care. (i.e. Education Principles, Sociology of Health, Statistics, Research, Counseling). Workshops I and II emphasized the need to focus more on a theoretical base for educational and clinical services. A second language, political science, religion, and history could be added to this curriculum. Clinical experiences could emphasize the triage function of the dental hygienist, self-care programs with the consumer, and other clinical settings for delivering care to special groups, such as the aged, minorities, homebound and residential populations.

This curriculum is on the right path, but needs to be bolder -- shoot for higher dreams>>>>>>the twenty-first century.

Let's review the credits and proportion of the curriculum as assigned to subject/role areas, and my suggestions of how the curriculum will probably need to be proportioned in the future if we consider outcomes of previous Workshops.

Credits	Proposed %	Suggested My %	Subject Area
55	40	40	Background
40	30	20	Clinical
14	10	20	Administrator-Manager, Research
27	20	20	Health Promoter, Consumer Advocate, Change Agent

There is much clinical time for future technology and practice settings discussed in Workshops I and II. Let me use one statement from the presentation to explain my point. It is a good statement idea. I will use two statements to help us get a future perspective: "Clinical courses have been designed to reflect anticipated changes in health care needs, in the consumers who are seeking care, and in the delivery of care." "These courses will enable students to provide a broad range of periodontal and other clinical skills to wider array of medically compromised patients in a variety of health care settings, on and off campus...".

But, it is not just consumers who are seeking care. Our future is to take care to the consumer who needs care, to educate the public for need and want, to research different societal groups to demonstrate the health needs and benefits of care to groups not receiving care, and to cost effectively provide for those needs with new technology and methods of delivery.

People want to know how to be healthy -- not be punished for their disease. Our curriculums need to teach dental hygienists to consider the consumer as a partner in his/her care.
"Periodontal and clinical skills" will not be the demand. Look at and dream about the future. We will be helping with self-care, self-evaluation, teaching the public application of different substnaces/methods to maintain health. Dental disease as we know it today is already on its way out. If you need proof, look at the recent issue of the USA Today newspaper that had a large full size, several page insert describing new procedures/care on our current horizon. By the way, the article was sponsored by the ADA.

How much on-campus clinic will there be in the future? Participants in Workshops I and II concluded that there will be different health care settings than today's. Maybe we won't even need today's dental unit.

Our curriculums must teach future dental hygienists how to use computerized telecommunication methods for gathering and disseminating information, discussing and providing prescriptions, treatment, and care.

Courses in this curriculum include current concepts and procedures for treating current dental problems/diseases. Workshops I and II projected a future of new technologies and care regimens, such as sealants, time release pellets attached to teeth, vaccines and rinses. Also, different modes of reaching-out with care were described. Triage of population groups and self-testing or evaluation. If we can imagine the technologies and delivery systems and mechanisms that will be available in the 21st century then we will have a better curriculum for the future.

We may not need the following courses in our future curriculum:

Radiology - x-rays will be replaced by electromagnetic fields, lasers, or some other more health promoting scientific approach.

Dental Hygiene I - which covers equipment, plaque control, oral health aids. Maybe brushing and flossing will be a thing of the past if our rinses continue to develop and chemical technology advances.

Dental Hygiene II - which includes the phase microscope, polishing, current fluoride methods, and impressions. Procedures and methods that will be outmoded and replaced by new technologies.

Dental Hygiene III - instruments, amalgam polishing, rubber dam, photography. With lasers, laser disc and computer capabilities and new materials for fillings, less and less need for fillings; these procedures may/will become obsolete.

Dental Hygiene V - Dental Materials - sure to change, we are already seeing many changes in materials that are available to us today.

Oral Medicine I - this could be a great course to teach on site with other health providers and at alternate practice sites -- combined with computer instruction.

Periodontology (two courses) - will it be needed in a technical-surgery sense? Or will robots and lasers do root planing, and vaccines eradicate periodontal disease? Will enzyme treatment, genetic alterations, clinical treatments to change cell function be in existence to alter our need for and type of periodontal care?

Current laboratory and clinic time for support courses may be cut also, because new teaching technology with computers will provide faster learning. Have you seen computer programs that teach blood circulation by showing its actual flow in color on the computer screen?

Let's take the risk and cut back the clinical-technic time. As suggested in Workshops I and II, make more time in this curriculum for knowledge to work with societal groups and health care teams. Use the time to teach students to inform the consumer about health care needs, to conduct self-care programs, to apply knowledge in a nontechnic sense by gathering and processing community health profiles and planning health care and planning delivery of needed health care.

The courses in the latter part of this curriculum approach the future and the six roles are covered.

Dental Hygiene VI includes descriptive research study and reinforces Workshops I and II recommendations regarding research in the practice setting.

Practicum - last semester, is an excellent start. All of the practice settings should be provided to each student. And the curriculum should provide the student with these health care setting experiences earlier.

In fact, I would like to see the courses in Semester V, VI and VII, emphasized more and earlier in the curriculum.

In summary, this curriculum could come close to a curriculum of the future by eliminating some laboratory and clinic time to allow for more knowledge time and teaching technology advances for preventing dental diseases. Time for teaching basic factual information and "technics" of treatment, will decrease, allowing dental hygienists to become health promoters in new health care delivery systems and at new sites.

Reaction Paper: Sample Curriculum in a Four-Year College Setting

Nancy Cooper, RDH, MS

The task assigned to me as a panel reactor to the sample curriculum is to critique the curriculum and make recommendations and comments that would strengthen the samples. Some of the questions considered in the critiques are:

1. Does the curriculum include preparation for each of the six roles identified as minimal entry level for the professional dental hygienist in the 21st century?
2. Is the curriculum built to reflect the futuristic concepts presented in Workshops I and II?
3. Do the curriculum philosophy and goals support the curriculum content and organization?
4. Are the content descriptions inclusive and based on a logical sequence for knowledge/skill learning?
5. Is the time allocation for content emphasis realistic?

As a practicing hygienist my critique and format of the samples may be coming from a different viewpoint than the other two reactors. Before I begin the specific critique of each sample curriculum, I would like to make a general comment concerning all three curricula. The guidelines stated that the assignment was, "To develop a curriculum which integrates responsibilities from each of the six roles identified at Workshop II as the entry level of the professional dental hygienist in the 21st century." From a practicing dental hygienist's point of view, I see the curricula as not necessarily preparing the 21st century dental hygienist but, preparing the dental hygienist today. The models do make a gallant attempt to educate the hygienist for the future; but the courses are necessary now. Hygienists today are put in the role of change agent, researcher, consumer advocate, health promoter and manager/administrator many times without the necessary educational background and tools to effectively carry out these roles to the fullest potential. I speak in favor of a composite of these curriculums to be implemented as soon as possible and to continue with the process of developing more encompassing futuristic curriculums. Change does involve risk, time and vision. We have begun.

The philosophy and goals of the four-year college curriculum support the curriculum content and organization.

From Workshop I and II we learned that the dental health needs of the public are greater than those that are currently being met. The authors state, "Therefore, educational programs must be designed to produce individuals who are capable of meeting the needs of society, dentistry and dental hygiene." Educational programs should be designed to meet the needs of society. But, let us move with caution. Dentistry is not meeting the needs of the public, so let us not get caught in the trap of trying to meet dentistry's needs. The public's needs are foremost and primary in importance.

Societal needs are ever changing and the consumer will have an even greater influence on the delivery of health care. The goals of any futuristic curriculum must be to create a learning environment for the student to be the consumer's partner in health care. In Workshop II, Charles Inlander dealt with the question "How can dental hygienists be responsive to consumer concerns?" The answer was, "By working as partners with the patient or consumer. By not overmedicalizing yourselves and the patient....We are making health a disease in this country. If this continues the public will begin to reject much of what you have to offer. You can be responsive by getting more information out to the public..." Examples of courses that can address this consumer issue and thus strengthen the curriculum are:

1. Contemporary Marketing: An introduction to marketing designed to give students an understanding of the roles of marketing in society and in private and not-for-profit organizations. Perspectives on improving various marketing activities e.g. retail-selling, advertising, industrial selling, and transportation.

2. Introduction to Mass Communication Effects: Survey of the uses and effects of mass communication in society with emphasis on selected audience groups including women, children, elderly and minorities.

The curriculum content descriptions are inclusive and based on a logical sequence for knowledge/skill learning. The course design and content correlate to prepare graduates for the six roles.

Time allocation and content emphasis generally are realistic. There is one area that I would like to review. The practicum in Semester VII offers the student an excellent opportunity for extern experience in only one of the clinical sites. The concept is applauded but I would encourage consideration of more than one site. I agree with the outline and goals of the course but would like to see more on-site extern experience in four to eight of the sites. We don't want the student to graduate as an expert in one area with little or no background in other settings such as in industry or the home. It is a great idea and just needs to be expanded. To be an effective hygienist and to function in all "future" arenas the student needs broader field experience.

SAMPLE CURRICULUM: UNIVERSITY DENTAL SCHOOL SETTING

Cheryl T. Metzger, RDH, MS
Department Chairperson, Dental Hygiene
University of Maryland
Baltimore, Maryland

Introduction

Prior to 1980, I believed that bachelor of science programs in dental hygiene should provide students the opportunity to specialize in a career related area by offering concentrations of 12 to 18 credits in areas such as education, public health, and management or periodontics. However, my thoughts began to change when I observed that students found it increasingly difficult to commit, at least at the end of their junior year, to 18 credits in one specific area. In addition, the body of knowledge regarding clinical practice and the increasing opportunities for graduates of baccalaureate programs to accept positions that required a mix of skills and knowledge further confirmed the need for a more generalist approach to dental hygiene education. Specialization could, and I believe should, occur at the Masters and doctoral level, a philosophy which is more consistent with the educational systems in other careers and disciplines.

Consequently I was delighted to be asked to provide a sample curriculum to take us into the twenty-first century, consistent with the directives of this conference. My personal philosophy has evolved over the years to make me a strong supporter of the mix of roles approach to curriculum design in dental hygiene education. I also firmly believe that to prepare our students for a future which will increasingly recognize the importance of health promotion and disease prevention and a future that may well position the dental hygienist as a key primary care provider in the system, we must help them to develop the skills, thought patterns and values necessary to think critically, to become more self-directed and to be more adaptable to a dynamic health care system.

Before I proceed, it would be helpful if I elaborate briefly on my thinking about the dental hygienist as "a key primary care provider." It is my opinion that the delivery systems of the future will increasingly be composed of large organizational units providing care and education, often on a pre-paid or capitation basis. This is already occurring to a large extent in the medical care sector and I believe the dental sector will become an integral part of the total health promotion and delivery system. Since there are few health professionals who routinely see clients every three to six months, the dental hygienist will play a key role, not only in the maintenance of oral health, but also in the early detection, referral and education regarding general health conditions.

With this broad scope and understanding of the system, the dental hygienist will be in an excellent position to move into managerial, health promotion and advocacy roles, as outlined by this conference. In addition, health care and education for the increasing numbers of elderly and homebound will require the development of community based and in home services that will include the dental hygienist as an integral member of the health care team.

With that introduction, I will now move on to the philosophy and teaching objectives that will serve to guide this curriculum model. For as Alvin Toffler said in Future Shock, "The inability to speak with precision and certainty about the future is no excuse for silence."

Philosophy and Teaching Objectives

Philosophy

The Department of Dental Hygiene offers a generic 2 + 2 and 2 + 3 baccalaureate degree program designed to prepare students for entry level roles and responsibilities as clinician, educator/health promotor, manager, researcher, consumer advocate and change agent. The curriculum is designed to assist the students in the development of the knowledge, skills, attitudes and values that will enable them to adapt to a dynamic health care delivery system. To help the students accomplish this goal, faculty are committed to creating an educational environment that will facilitate the development and cultivation of creative, critical thinking, responsible professionals who are capable of realistically assessing their own performance and directing their own professionl growth and development commensurate with their education and experience during and beyond the educational programs at this institution. The objectives which follow provide direction to the program as the faculty, students and graduates strive through teaching, research and service to create a positive impact on the health and well-being of the public.

Teaching Objectives (Baccalaureate Degree Program)

1. Facilitate the development of dental hygienists who are capable of functioning in a variety of settings; fulfilling as required, the following roles competently and with self-assurance: clinician, educator/health promotor, manager, researcher, consumer advocate and change agent.

2. Facilitate the development of dental hygienists who possess the

skills, knowledge, attitudes and values that will enable them to implement competently the process of dental hygiene care.

3. Create an environment which will facilitate the dental hygiene student's ability to synthesize and apply knowledge of basic, clinical and social sciences in all professional interactions.

4. Facilitate the development of dental hygienists who are willing and able to provide dental hygiene interventions including health promotion and advocacy for people with special needs (i.e. physical, social, economic, or psychological).

5. Facilitate the development of dental hygienists who can function effectively as members of interdisciplinary health system teams.

6. Enable students to participate in a variety of community based settings in an effort to broaden their understanding of the various roles they can fulfill, and strengthen their professional commitment to the provision and promotion or oral health in a variety of organizations.

7. Facilitate students' development and utilization of problem solving and decision making skills.

8. Facilitate the development of dental hygienists who uphold the ethics of the dental hygiene profession and fulfill all professional roles responsibly and with compassion.

9. Facilitate the development of dental hygienists who are committed to membership and active participation in professional associations.

Curriculum

Now let's take a closer look at the curriculum to see how it attempts to meet these philosophy and objectives statements. In addition, as I move through the curriculum, I will discuss how various segments and activities are designed to help students prepare for the six roles outlined in these conferences. Attachment I outlines the sequence and credit hours of courses by title.

I have selected a two plus two curriculum model for this discussion, although I think one plus three of four year integrated curricula are viable alternatives as well. However, since many students do not decide on a career choice until they are in the first year of college and an increasingly larger number of students are returning to college after a break of a few years, the two plus two curriculum provides a more attractive option for these students. In addition, other health related fields, such as nursing and physical therapy are designed in the two plus two format and students who initially think their career choice is in these fields can make a change without losing large numbers of credits or having to start over.

The Pre-professional Phase

The pre-professional phase of the curriculum would require at least two years of full time study and includes the following courses for a total of 60 credits.

English - 6 credits
Psychology - 3 credits
Sociology - 3 credits
Public Speaking - 3 credits
Statistics - 3 credits
Social Sciences - 9 credits (Economics, Political Science or Government, and/or Anthropology)
Humanities - 6 credits (Computer Science for 3 credits)
Biology - 4 credits
General and Organic Chemistry - 8 credits
Human Anatomy and Physiology - 8 credits
Microbiology - 4 credits
Nutrition - 3 credits
Total = 60 credits

This phase is designed to provide the foundation in the basic and human sciences, the social sciences and humanities necessary for the students to meet the academic requirements and communication challenges that they will encounter in the dental hygiene professional phase of the curriculum.

Professional Curriculum

Most students would complete the professional curriculum in two years of full time study for 65 credits with a total of 125 credits would be required to graduate. However, I believe a three year curriculum option should also be offered. Such an option would be very attractive to students who may have family or work responsibilities and need to spread out their academic program over three years. In the three year option, clinic participation courses would not begin until year two. Therefore, students who have one or two outstanding pre-professional courses would be admitted to the program and begin taking nonclinical dental hygiene courses and complete their prerequisite courses during that first year. Although both the two and the three year options are listed in Attachment I, I will discsuss the curriculum in the order outlined for the two year option.

Year 3, Fall

The primary purpose of this semester would be to provide the foundation for the clinical role of the dental hygienist and help the students appreciate their roles in the delivery system. Learning experiences and evaluation mechanisms are designed to assist students in the development of their self-assessment abilities, their verbal and written communication skills and their personal organization and management skills. Students would be introduced early to the dental hygiene process of care in classroom and clinic sessions since it would serve as the framework for the approach to teaching and evaluation. Also the school's computer system for the management of clinic records would be introduced to the students this semester as they prepare to see their first client other than a classmate partner.

Traditionally in dental hygiene education, we have had rigorous quantitative clinic evaluation systems which emphasized checking, grading and telling the student what is wrong. Since our aim should be the development of self-assessing professionals, a more qualitative clinic evaluation system which stresses the student's progress toward the attainment of intended learning outcomes and semester specific behavioral cues would be appropriate. Intended learning outcomes should fall into the following categories which are consistent with the dental hygiene process of care: assessment, which includes health history and all intra and extra-oral data; preventive treatment planning and health strategies; implementation: evaluation; and professionalism. At midterm and at the end of the semester, the students would review the comments that they and faculty members have made about their clinic performance in relationship to the behavioral cues for that semester. Based on this review and analysis, the students would discuss in writing their strengths and weaknesses and develop plans for improvement. This documentation would then be reviewed by the student's advisor. Clinic grades would be determined by the student's self-assessment, the advisor's recommendation and the concurrence of the faculty who had worked with that student.

The courses this semester would be:

Prevention and Control I - 8 credits. The didactic component would need to include 5 to 6 hours of classtime weekly, designed to prepare students for pre-clinic and clinic. Two courses usually taught separately, periodontics and dental anatomy, would be integrated throughout this course. The remaining credits would be allocated to pre-clinic and clinic where each student would spend approximately 8 hours weekly learning with a student partner, and near the end of the semester providing dental hygiene services for "real" clients.

Oral Biology - 7 credits. This course would include four major components: Head and Neck Anatomy - 2.5 credits, Oral Histology and Embryology - 1.5 credits, Oral Microbiology - 1 credit, and General and Oral Pathology - 2 credits. Whenever possible attempts would be made to correlate this material with learning in prevention and control. For example, relating the intra and extra-oral exam with anatomic structures being studied in anatomy, and correlating concepts of sterilization and aesepsis with microbiology.

Health Education Strategies - 2 credits. This course would introduce the students to the concepts and the value of health promotion and disease prevention with an emphasis on strategies to facilitate an individual's behavioral change. Students observe senior role models in clinic and participate in the planning and implementation of health strategies for the senior students' clients. By the end of this course, the student will be able to begin to apply a preventive health philosophy through a client centered approach to education that facilitates the client's valuing and adopting preventive health behaviors.

Year 3, Spring

The preparation in the clinic foundation would continue and in addition students would be introduced to their role and responsibility as an educator for groups of people, as will be discussed in relationship to each course. The clinic foundation courses would be:

Pharmacology - 3 credits
Methods and Materials - 3 credits (2, lecture and 1, lab/clinic)
Radiology - 2 credits (didactic and clinic)

Prevention and Control II - 7 credits (4.5 lecture and 2.5, clinic). Students would provide clinic related services eight hours weekly. All dental hygiene services should be introduced didactically and should be provided clinically by the end of the junior year, thus enabling students to have one full year to incorporate the full range of dental hygiene services into their comprehensive treatment plans. Also at this time, students would begin working "concurrently" with three or four assigned dental students. Clients would be referred to the dental hygiene student by the dental student and the student would develop a dental hygiene treatment plan for all her clients, that specifically meets the needs of that individual patient. This experience is equally important for the dental students as they would soon learn that they can, and should, depend upon the dental hygienist for the preventive components of care. The practice of collaborative care would continue during their senior year as well.

Behavioral cues would stress the demonstration of progressive independence and efficiency in analyzing the relationship between etologic and modifying factors and patients' health status to provide preventive and therapeutic treatment at an acceptable level. This would help to insure the best care for each client. Case study learning activities and examinations would help students integrate and apply newly learned information.

Role expansion would begin this semester with two courses: The Care and Management of the Special Patient -- 2 credits and Educational Program Development -- 3 credits. In the Special Patient course, the students would learn about how they as health professionals can play an advocacy role in promoting care and educational programs for these special people.

Also included in this course would be the opportunity to prepare and present a table clinic. This activity, which should be a course requirement, would enable the students to function in a variety of roles such as manager, health promoter and educator and change agent. The skills which this experience would help them to develop are: using the library; organizing, preparing, and presenting an educational program to a group; assessing the needs of the audience; and using strategies to influence change in thinking and/or behavior.

The Educational Program Development course would provide the content necessary to effectively develop the skills just mentioned. This course would introduce the students to a variety of instructional approaches and would guide students in deciding how to assess the educational needs of groups with whom they might work, such as school systems, parent groups, homebound clients or other health professional or policy making groups. For this course, students would prepare a program of instruction for a group of their choice and present that program to their classmates. Each student would participate in the peer review of the others teaching behaviors. The goal of this course would be to help the students enhance their effectiveness and build their confidence in their roles as educator and health promoter.

Summer

Community Service assignments could begin over the Summer. These assignments would occur in a variety of institutions and centers both locally and in other regions if necessary to provide a broad base of offerings. Sites would include: research centers, long term care centers, Veterans Administration and other hospitals, health maintanence organizations and for-profit delivery organizations and community and institutionally based centers and homes that serve special population groups. Students would select two sites over a two semester period, thereby spending a total of 64 hours, or a half a day a week each semester at each site. Therefore, they would graduate with 2 credits in Community Service.

Due to the flexibility of selection and timing, most students would probably elect to do one of their community service assignments over the summer and the other one during the fall or spring semester of their senior year. Sites would be selected based on ther willingness to help students meet a variety of objectives. Although some students may wish to incorporate a clinical component into this experience, the primary goal of these community based experiences would be to enable the students to participate in a variety of role experiences which would include educator, health promoter, researcher and/or change agent. The student and the site preceptor would work together to develop a learning contract with specific learning objectives and assessment mechanisms designed to reflect the students' interests and possible career goals.

Year 4, Fall Semester

The further development and enhancement of the student's clinical role would continue in Advanced Clinical Practice I - 5 credits. This course would be composed of one hour of seminar and 12 hours of clinic a week. The behavioral cues for this semester would stress increased independence and confidence for all dental hygiene services introduced in spring of the junior year. It is expected that students will need increasingly less guidance in applying sound rationale for their decison making about the collection and analysis of assessment data, treatment planning, health strategies and implementation and evaluation of client care. Students would also be expected to demonstrate efficient time management and integration of previously learned basic and clinical science information in their clinical practices.

In addition, students would have the opportunity for both clinical and extended role experiences in a variety of care and educational centers in the dental school. On a rotation basis, they would be able to work collaboratively with residents and post graduate students in periodontics, pediatric dentistry, oral surgery and orthodontics. In the admissions area, they would work with dental hygienists who serve as client advocates and become familiar with the communication skills and knowledge required to fulfill such a role. In the special patients, radiology, emergency and oral diagnosis clinics, the students will have the opportunity to work with clients and families of a broader variety than are seen in the general clinics. In the Screening clinic, dental hygiene students would provide the same screening and evaluation services as do the dental students, since in some care settings the dental hygienist will be responsible for the data collection, determination of a tentative comprehensive treatment plan and subsequent referral.

Again, these experiences will be equally important to the educational program of the residents and post graduate dental students since they will have an opportunity to work with dental hygienists who are fulfilling a variety of important roles in the delivery system. These experiences will also help to orient the clients to the roles and responsibilities of the dental hygienist.

The didactic and laboratory components of the Perspectives course would be designed to provide students with the opportunity to explore, develop and apply advanced concepts and skills as they pertain to the role of the dental hygienist in three major subject areas: periodontics, pain and anxiety control, and myofacial pain. By the end of the periodontics unit, the students will have had over the two years, a total of 90 lecture hours in Periodontics. Following an introduction to the process of case documentation and intraoral photography, each student would identify a periodontally involved patient appropriate to serve as her case documentation client. Each senior would present her case to a group of her peers, a periodontist and dental hygiene faculty member Spring semester. This assignment would be particularly useful in helping students to evaluate treatment outcomes and identify comprehensive care needs, both those needs and services within and outside the dental hygiene scope of practice.

As a part of the Perspectives I course, the students would gain additional practice in library use, and written communication skill development through an independent project assignment. The student could elect to do an annotated bibliography, a review of the literature or an issue paper on a topic related to one of the three components of the class. Evaluation criteria, which should pertain to all written assignments, would address mechanical considerations, content and evidence of logical, orderly and rational thinking.

The other two courses taken by the senior this semester would be Community Oral Health and Management for the Health Care Professional. The Community Oral Health course would be designed to reflect the changing societal, delivery system and oral health related trends, and would meet for three hours weekly. The usual public health topics such as oral epidemiology; oral health indices; the process of assessing, planning, implementing and evaluating community programs; and the role of government would be included. In addition, topics such as the changing dynamics or the oral health care delivery system and its impact on access, manpower, quality assurance, the types of practice organizations and the cost and financing of health care and health promotion would be covered.

To gain practical experience in the roles of change agent, health promoter and advocate, students will participate in role playing sessions where they will formulate and discuss their strategies for facilitating change and demonstrate how they would attempt to influence consumer and policy making groups to adopt preventive initiatives, such as water fluoridation and school based fluoride and sealant programs.

As the title conveys, the Management course would stress the development of the managerial skills necessary for effective personal management, group interaction, and leadership roles. Activities and assessment tools would enable students to do the following: identify personal managerial strengths and weaknesses: develop a strategy for managerial self-improvement; apply management skills to the dental practice setting; develop a marketing strategy for a real or hypothetical dental practice; and propose managerial roles for the dental hygienist in a variety of delivery and community settings. Students would also be introduced to a variety of computer applications in dental organizations and visit local centers to observe such systems at work.

Year 4, Spring

Introdution to Oral Health Research - 2 credits would be taught in a concentrated form during January and would be completed by mid-February to enable the students to have the knowledge, skills and confidence to participate in a research project for their Spring semester Special Topic course, if they so choose. The research course would be designed to acquaint students with various research methodologies and their application to dental hygiene.

Activities and assignments would enable the students to: relate the value of dental hygiene research to the practice of dental hygiene; collaboratively develop a research proposal utilizing the fundamentals of research design; critique a published research report; and discuss how dental hygiene research can have an impact on oral health and the future of the profession.

The one credit, Special Topics course would require students to direct their own learning and to establish their own contacts within the university and surrounding community. Since students will be responsible for directing their own learning after graduation, this experience would provide such an opportunity with faculty guidance when needed. In addition, and possibly more importantly, this assignment will help them develop the confidence necessary for continued independent growth and learning following graduation. Although each student would select a faculty advisor, the student would be responsible for selecting a site for her project, identifying a target population, determining the program parameters and establishing her own learning objectives and evaluation mechanisms.

The 2 credit, Issues in Health Care Delivery course would be an extension of the Community Oral Health course. Since the latter course would focus on the Oral Health Care Delivery System, the Issues course would take a broader focus and examine the trends and influences on the system as a whole and study these influences on oral health, particularly as related to dental hygiene practice. Course activities and assignments would be necessary for effecting change through the legislative process, coalition building and networking. As in the Community course, the role emphasis is on health promotion, consumer advocacy and change agent. Guest speakers and dental hygiene role models would be invited to share their knowledge and expertise in these areas.

Although not mentioned as yet, the further enhancement and refinement of the clinical role and preparation for clinical practice would continue throughout the last semester in the four credit, Advanced Clinical Practice course. Emphasis on the consistency and efficiency would be stressed and students would be encouraged to value their decreasing need for faculty guidance and supervision. It is expected that during the senior year, the students will have formulated their own standards of practice; a set of internal criteria that will guide their decision making, and enable them to realistically assess themselves as a dental hygiene practitioner and allow for independent functioning when appropriate.

The Perspective of Dental Hygiene II course - 2 credits, would be designed to familiarize the senior students with the planning and development of a professional career. Aspects explored would include: ethics and professional responsibility, the economics of oral health care delivery, personal financial management, resume preparation, employment interviews, compensation, salary, benefits, negotiation, selecting a practice setting, and recall and maintenance programs.

Summary

In summary, I would like to briefly outline which courses in the curriculum would specifically address preparation for the roles: clinician, manager, researcher, consumer advocate, health promoter/educator, and change agent.

Clinician

Pre-professional
All courses, particularily the sciences, english, and psychology.

Oral Biology
Radiology
Health Education Strategies
Prevention and Control I and II
Pharmacology
Methods and Materials
Special Patient Care and Management
Advanced Clinical Practice I and II
Perspectives of Dental Hygiene Practice I and II
Community Service

Manager

(Professional and preprofessional combined)
English
Psychology
Sociology
Economics
Public Speaking
Social Sciences
Computer Sciences

Management for the Health Care Professional
Perspectives of Dental Hygiene Practice II
Educational Program Development
Special Patient Care and Management
Community Service
Special Topics

Researcher

Statistics and Computer Science
Introduction to Oral Health Research
Community Oral Health
Special Topics (for some)

Health Promoter/Educator

Public Speaking
Psychology
Sociology
Political Science
English
Oral Health Strategies
Educational Program Development
Community Oral Health
Special Patient Care and Management
Community Service
Special Topics (for some)
Issues in Oral Health Care Delivery

Consumer Advocate

Economics
Political Science
Sociology
Psychology
Public Speaking
English
Community Oral Health
Issues in Health Care Delivery
Management for the Health Care Professional
Special Patient
Community Service
Special Topics (for some)

Change Agent

Economics
Political Science

Sociology
Anthropology (helpful, but optional)
Psychology
Statistics
Public Speaking
English
Community Oral Health
Issues in Oral Health Care Delivery
Management for the Health Care Professional
Educational Program Development
Introduction to Oral Health Research

ATTACHMENT 1

Pre-professional Curriculum

(Usually 2 yrs. full-time)

Includes: English (6), Psycology (4), Sociology (3), Public Speaking (3), Statistics (3), Social Sciences: Political Science, Economics, Psychology or Anthropology (9), Humanities: Computer Science plus one other course (6), Biology (4), General & Organic Chemistry (8), Human Anatomy and Physiology (8), Microbiology (4), Nutrition (3) = 60 credits

Professional Curriculum

2 Yr. Option

Yr. 3	Oral Biology	7
	Health Education Strategies	2
	Prevention & Control I (clinic and didactic)	9
		18
	Oral Radiology	2
	Pharmacology	3
	Special Patients	2
	Methods & Materials	3
	Prevention & Control II	7
	Educational Program Dev.	3
		19
Yr. 4	Advanced Clinical Prac. I	5
	Perspectives of DHYG Prac. I	3
	Community Oral Health	3
	Health Care Management	3
	Community Service I (may be taken Summer)	1
		15
	Advanced Clinical Prac. II	4
	Perspectives of DHYG Prac. II	2
	Special Topics	1
	Issues in Health Care Delivery	2
	Intro. to Oral Health Research	2
	Community Service II	1
		12

3 Yr. Option

Yr. 3	Oral Biology	7
	Health Education Strategies	2
	Outstanding pre-professional courses	(3-7)
		10-17
	Educational Program Dev.	3
	Pharmacology	3
	Issues in Health Care Del.	2
	Outstanding pre-professional	(3-7)
		8-15
Yr. 4	Prevention & Control I	9
	Community Oral Health	3
	Health Care Strategies	(2)
		12-14
	Prevention & Control II	7
	Oral Radiology	2
	Methods and Materials	3
	Special Patients	2
	Pharmacology	(3)
		14-17
Yr. 5	Advanced Clinical Practice I	5
	Perspectives of DHYG Prac. I	3
	Community Service I	1
	Health Care Management	3
		12
	Advanced Clinical Prac. II	4
	Perspectives of DHYG Prac II	2
	Special Topics	1
	Issues in Health Care Del.	(2)
	Intro. to Oral Health Research	2
	Community Service II	1
	Issues in Health Care Del.	(3)
		10-12

Total 125 semester credits

Reaction Paper: Sample Curriculum in a University Dental School Setting

Denise Bowen, RDH, MS

The curriculum begins with an introduction, philosophy statement and goals that, in my opinion, highlight some of the decisive factors which determine whether dental hygiene moves from its current status, perceived by some as a "vocation," into the arena of a developing profession. If we are to attain this goal, we will need a "more generalist approach to dental hygiene education," as Cheryl Metzger, so aptly describes it. Specialization should occur at the graduate level, a preference established by group consensus at the previous Dental Hygiene Education and Practice Workshops. The goal of the undergraduate curriculum is to prepare entry level dental hygienists with knowledge, attitudes and skills needed to function in a variety of roles including clinician, health promoter/educator, administrator/manager, researcher, consumer advocate and change agent. It is exciting to be able to visualize a different kind of dental hygiene professional in the future.

The philosophy and goals outlined in this paper propose other crucial elements for professional development, and perhaps survival, in the 21st century such as: 1) autonomy, which is described in this paper only in terms of self direction, self assessment, and "the key primary care provider"; 2) upgrading of entry level educational requirements to the baccalaureate degree in dental hygiene; 3) increasing emphasis on health promotion and disease prevention; and 4) facilitating the development of responsible professionals capable of critical thinking, problem solving and decision making.

While I applaud and whole heartedly agree with these important points, I must emphasize that the hygienist will serve in a myriad of health care delivery systems and settings in the future. In my opinion, these will not necessarily be primarily dental facilities, as seems to be the emphasis of experience in this curriculum, even when considering the larger organizational units with pre-payment and capitation programs. All prognosticators agree that there will be a much greater emphasis on prevention and conservation of health than on curing. Participant consensus at Workshop I indicated strong agreement, that consumer interest in containment of medical costs and accessibility of care are issues that could provide impetus for the reorganization of the dental care system. A corollary would be the removal of arbitrary barriers which presently restrict dental hygienists from providing maximum primary prevention and therapeutic care in a wide variety of settings.

Whether the ultimate curriculum takes the form of a two plus two, one plus three, etc. design, it is critical that it prepare dental hygiene graduates for these advancements and alternatives. The preprofessional phase of this proposal builds upon the traditional core of general education and basic sciences by adding 9 credits of social science. Recommended subjects include economics, political science or government and anthropology. These courses as well as others I mentioned earlier, such as foreign language, gerontology, communication, management and organization, motivational psychology, marketing, educational principles and ethics, should become a more integral part of the early preparation of dental hygienists.

As an aside, the inclusion of humanities coursework generally is required for degree completion, as well as for contributing to a more well-rounded society. I wonder, however, how many institutions of higher education would include computer science in this category. Regardless, both content areas warrant inclusion.

In the professional curriculum, the integration of dental science content with clinical preparation presents an interesting approach to this particular phase of role preparation. Once again, however, we need to question the emphasis on teaching "all dental hygiene services legal anywhere in the United States as a mode of the future. As dental busyness declines and the roles of the dental hygienist change, this proviso will become less and less important in preparing dental hygiene graduates. And, we must also be careful about continuing to define our profession in terms of a list of functions.

Courses designed for role expansion such as, "The Care and Management of the Special Patient", "Educational Program Development", "Community Service", "Community Oral Health and Management for the Oral Health Care Professional", "Special Topics", and "Issues in Health Care Delivery", address the emerging emphasis on oral health promotion, consumer advocacy and change agent. The actual experiences in community-based programs are excellent, and should be expanded. Likewise, course content relevant to program administration such as supervision, fiscal management, marketing, organizational theory and human resource development and evaluation could be emphasized to a greater degree.

The research component of the curriculum, i.e. one statistics prerequisite and one introductory research course, as defined by activities and assignments, not necessarily credit hour allocation. seem to target the appropriate level of training for the undergraduate. Students would learn to value research, critique literature and participate through collaboration in the research process. Perhaps the most controversial portion of this critique relates to the proposed interaction of dental hygiene and dental students in the dental school setting. It is obvious that advantages such as physical equipment and resources, ongoing scholarly activity, access to varied subdisciplines and specialties, and so on, should not be overlooked. On the other hand, if dental school curricula continue to be primarily practice-oriented, dental hygiene must be certain to create its own course. It is my belief that we cannot continue to depend on client referrals from dental students if we are to serve as first contact, primary providers in the future. It is my hope however, that a "collaborative" working relationship, as suggested, can be fostered between these two groups in the dental school setting. Perhaps this collaboration will develop in a more equal sense as exists between the general practitioner and the dental specialist or between other cooperating health professionals. It seems that to date, we have no data to show that this collaboration between dental hygiene student and dental student has changed attitudes and behaviors, so we must question the possibility of significant change in the future.

In the same vein, while I see the value of dental hygiene student rotations in various educational centers in the dental school, it also will be important to further expand interdisciplinary experiences external to any school-based clinics. Once again, I quote Dr. Lindeman's presentation during Workshop I, "...new or emerging health professionals must look to the future, not the past, for answers to their questions; they must look to society, not their professions, for answers to these questions."1

It is in this setting that dental hygiene education may have to heed the advice of Dr. Helms at Workshop II, as well.2 She cautioned us to be careful of our inertia and to view conflict resolution as a process of everchanging compromise to avoid winning now and losing later. On the other hand, she encouraged dental hygiene to identify clearance or access points to bring about effective change.

References

1. Lindeman, C.A. "Higher Education and the Health Professions," Dental Hygiene Education Workshop Proceedings, Denver, Colorado, July 22-23, 1984, p. 29.

2. Helms, L. "Political Scientist Viwepoint," Dental Hygiene Education and Practice Workshop II Proceedings, April 25-27, 1985, p.12.

Reaction Paper: Sample Curriculum in a University Dental School Setting

Nancy Cooper, RDH, MS

The content descriptions of the courses in the curriculum are not inclusive. A more precise and adequate format for course description and listing is suggested.

Does the curriculum include preparation for each of the six roles identified as minimal entry level for the professional dental hygienist in the 21st century? The curriculum includes preparation for the six roles with varying intensity. The clinical role is emphasized to a much greater degree than the other five roles. When reviewing the curriculum it is noted that the author classified many courses in several categories, i.e., the English course was to facilitate becoming a manager, a consumer advocate and a change agent. Likewise the basic course in sociology is to support all these roles.

Viewing the curriculum from a practicing hygienist's point of view it appears as the basic 60 credit hours for the two preprofessional years are no different than what has been offered in the past and is offered in current programs. The scope of the basic courses should be broadened. In order to meet the future needs of the consumer the basic courses, i.e. social sciences, should be expanded. These core courses need to be increased to cover economics, administration, politics, government, business, anthropology, administration, education and law.

Examples of core courses that could enhance the curriculum to meet the needs of the consumer are:

1. American Politics: A survey of American politics, including political behavior of the American electorate, the theory of democracy, the structure and function of American political institutions, and contemporary issues.

2. Group Politics: Theories and research on the roles played by interest groups in different arenas of government: electoral, legislative, judicial, and executive.

3. The Legislative Process: The recruitment, formal and informal procedure, and power structure of legislative bodies, and their place in contemporary American government.

Is the curriculum built to reflect the futuristic concepts presented in Workshop I and II? In most role areas the answer is no. It appears that the roles have been adapted into an existing curriculum. The roles should be defined first, and then the curriculum should be designed to meet the needs of the roles.

The curriculum philosophy encompasses the six roles, but the curriculum needs to be strengthened for the research, manager and consumer advocate roles. Let us examine the consumer advocate role. Besides the basic social sciences which the author has applied to educate the student in the consumer advocate role, a two credit course, Issues in Health Care Delivery, is offered. This course is a survey of trends and skills necessary for effecting change but it is only a beginning. Here are examples of courses that could be added to strengthen the consumer advocate role in this curriculum.

1. Introduction to Human Services, 3 Credits: An overview of the caregivers, the delivery systems and the types of services provided within the field of human services, with particular emphasis on the development of the field and the roles and functions performed by these "new professionals."

We need more knowledge related to who to refer to for what particular health problem.

2. Consumer Health, 3 Credits: Students need knowledge of available products and services if they are to function as a consumer advocate. Preparation in knowledge and skills related to consumers of health products and services.

3. Introduction to Insurance, 3 Credits: Protection and savings features of insurance contracts covering personal risks including life, health and disability; contract analysis; legal aspects; pricing, underwriting and marketing methods. Insurance coverages available for protection of property, casualty, and liability insurance contracts from the viewpoint of the insured, insurer, and creditors.

The course is needed to assist in evaluating in the consumer's and our own coverage for health care in various settings. Consumers will not be paying for services as they do now, but through innovative changes in insurance plans etc. If HMO's and PPO's are here now what will insurance plans bring in the future?

If the previous changes are considered the time allocation for the curriculum will definitely become a two plus three program or more. One must keep in mind that we would never consider offering a few courses in clinical dental hygiene and expect a competent clincian to emerge, therefore, let us not offer a limited selection of courses to prepare the graduate for the other five roles.

Reaction Paper: Sample Curriculum in a University Dental School Setting

Sally Deck, RDH, MS

The philosophy of this curriculum describes an optional track of two plus two or two plus three years to address the population and societal changes of the future: namely the older student who may need more time to accomplish his/her education goal. A more costly goal that requires more students to work while attending school.

The need to prepare students in six roles in a dynamic health care delivery system is described. Admirable educational principles are included for faculty and student roles in this program. Teaching through research and service activities is emphasized.

Although parts of the curriculum do address needs of the elderly and minorities, there is no description of the type of society that this program will function in as defined in Workshops I and II.

There is no mention of preparing for a technological age which will require a humanistic approach supported by a knowledge base. That is, the dental hygienist as a knowledge worker and not a technology applier as identified in the previous workshops.

In reviewing the Goals/Objectives, one finds that they are consistent with the stated Philosophy and support six roles in a variety of settings. They emphasize skills, knowledge, attitudes and values to implement dental hygiene care. They include basic, clinical and social science courses. They provide for dental hygiene intervention, including health promotion and advocacy for special needs patients; and support inclusion of dental hygienists in interdisciplinary health system teams. It is stated that the student will learn in community based settings and in a variety of organizations. Finally, the goals/objectives recognize that preparing dental hygienists for roles in different health care settings to meet society's demands/needs, and for delivery of care requires changes in development of their ability to function. One issue that seems to be missing, is the need to recognize consumers as partners in providing their own health care.

The curriculum is offered at the college level and reflects the philosophy of higher education. One can choose to complete the curriculum in four or five years and receive a bachelors degree.

The design of the curriculum shows good progress and includes instruction for all six roles.

I would like to see a second language to prepare graduates to communicate with the increasing hispanic population. It is admirable that the students will perform responsible roles and actively participate in all phases of their learning experience. But, for the twenty-first century, what the student is taught to do and where the student will practice his/her skills must change.

Examples of areas which should change follow:

- The Educational Program Development course describes students presenting a program to classmates,
- The clinical courses and Perspectives of Dental Hygiene course describe current procedures/technics that dental hygienists perform today, (polish teeth, curettage, local anesthesia)
- Students are rotated to dental school clinics, departments and specialities,
- Individual patient assignments are made for Periodontics and Myofacial Pain clinics
- Ninety hours of lecture are devoted to periodontics
- The Community Oral Health course includes role playing.

New practice settings with patients and other health personnel must be used. Tommorrow's curriculum, as suggested in Workshops I and II, will be conducted more in off campus sites. Students must be directed to identify groups for presentation of their programs. Other health professional personnel should be involved in working with the students while they are planning and making the presentation.

It is important to use the dental school setting and its advantages for the curriculum. But, be careful not to use it exclusively. Will the same specialties exist in the twenty-first century? These dental school experiences will be with the healthy ambulatory patients that we are currently reaching. Involve unhealthy patients in homebound and institutional settings and provide these patients with the education and skill training for good health. The indications are that periodontists will have a different emphasis because of treatment changes, vaccines etc.

Role playing needs to become actual practice in providing care. Students should work in health care programs providing health promotion education, self-care information and prescriptions, measuring community health problems and changes, and developing new approaches to prevent problems.

The Special Topics course is on the right track. The self directed learning and contacts with the surrounding community to identify a target population, establish objectives for and plan and evaluate a program, is exactly the experience students will need for future roles.

The curriculum includes instruction in the use and application of the computer for dental practice. Our new curriculums must involve the computer as a teaching tool, i.e. provide three-dimensional isntruction for tooth morphology, and health testing, i.e., put your hand on the screen and get your blood pressure/bio-rhythms read. We will be data collectors and problem solvers. Remember "Bones" from Star Trek, with his little box that he would point at people, checking their molecular structure and thus finding out their health condition? Students and patients can plan to be treated by computers through telecommunication methods and television in the future.

I see a curriculum that uses the technology age to compress the information allowing us to teach didactic information in a shorter time span and to get students off campus to populations needing care. New health care will include lasers, chemical treatments, robots, self-care, magnetic resonance technics, etc. Gone will be curettage, polishing, amalgam, root planing and x-ray procedures/technics.

Try to throw out the typical functions,....cut clinic time...put it into community service with other health professionals. Delete hours of periodontics, radiography, dental methods and materials. Add time to health care, management, economics and political science. Plan for a disease eradicated society as described in previous workshops. Involve and design health care centers that will serve populations not individuals. Emphasize health promotion -- disease prevention, research activities and self-care for the consumer who wants to be a partner in his/her own care.

SAMPLE CURRICULUM: COMMUNITY COLLEGE SETTING

Recie Pennel, RDH, BS
Instructor, Johnson County Community College

I'd like to take a few moments to discuss the events of the last few months that led me here today. Our faculty was fortunate enough to have several representatives at Workshops I and II. Upon our return we began to address several major issues, for instance:

- dental hygiene of the future
- community colleges of the future
- demographics of society
- and health care delivery systems of the early 21st century

As a team, we began the lengthy process of redefining philosophy and goals, refining a curriculum and then making it more futuristic in scope. The process was similar to that followed in the workshops series. I'd like to emphasize that I am only the spokesperson for the team which developed this sample curriculum for a dental hygiene program in a community college. The team included Margaret Biethman, Renee Byczek, Polly Pfister, Pam Tinder, and Sally Winship.

In preparing the curriculum we assumed that students will enter the program with: 1) computer basic knowledge, 2) alternative learning styles, 3) languages at high school level, and 4) some international exposure.

Dental Hygiene Program

Philosophy and Goals

"The intent of the Dental Hygiene Program is that the graduating dental hygienist will exhibit characteristics of a competent preventive professional meeting the oral health needs of the consumer now and in the future." I'd like to highlight a few key words which were the focus of the development process: competent, consumer, and future. These concepts were foremost in the planning and development process. Curriculum goals are presented in Attachment A.

The first goal which is encompassed approximately 25% or the total curriculum is, "Providing preventive therapeutic oral health care." This goal primarily addresses the clinical role of the dental hygienist with integration of research, health promotion, consumer advocate and management roles.

The second and third goals which encompass an approximate total of 25% of the curriculum are, "Possessing the personal attributes of a caring, empathetic, problem solving individual" and, "Internalizing and demonstrating professional characteristics." Both address the affective area of developing a professional and are an integral part of the development of all six roles.

The fourth goal which encompasses about 5% of the academic curriculum, but can be attained to a higher degree through extracurricular experience is, "Integrating current educational experience to be adaptive to life-long learning." Not only does this goal deal with the role of research for dental hygiene, but maybe more importantly, the concepts of competency and quality assurance. I feel that it is important that we inform students that graduation is only the beginning. Because of changes, continuing education is mandatory. The fifth goal, "Promoting community health and service" encompasses approximately 15% of the curriculum but, again there can be more experience in these areas through other activities, such as structuring community volunteer mechanisms and particularily through Student American Dental Hygienists' Association participation. This goal obviously addresses the roles of educator/health promoter, change agent and patient advocate, with the administration/management role being stronger if the noncurricular activities are well structured.

The sixth and final goal, "Pursuing interest in advanced study in dental hygiene" is strongly encouraged through the curriculum. It is a viable option through a cooperative agreement with a local university for a bachelor's degree and of course option for continuing to masters and doctoral degrees. The next phase of curriculum development is to insure that it facilitates achievement of the established philosophy and goals and objectives.

The curriculum, a summary of which is presented in Attachment B, consists of six semesters and 87 credits, with a viable option for baccalaureate degree study on the community college campus. The interfacing of the six dental hygiene roles and the curriculum is identified in the summary.

Features/Benefits

Recognizing that time is limited and that you each have a copy of the details of the curriculum, I've chosen to use the feature/benefit approach to share and describe the curriculum. This approach is simply a process of highlighting several distinct features of the curriculum and describing the advantages of those features. The following is summarized in Attachment C.

1. The first primary feature of this curriculum is that it is efficient. The benefit of this feature is that by providing a mechanism for a person

to complete professional requirements in six semesters, the overall cost of education and health care delivery can be contained.

2. Another feature of the curriculum is that it is versatile. It can be structured as a three-year, one-year plus two-years, or a prerequisite semester plus five-semester curriculum. It also can be structured as a one-year plus two-year plus one-year curriculum when the bachelors degree articulation is utilized. The benefit is that individual insitutions can determine at what point actual admission into the dental hygiene program takes place.

3. A strong feature of the curriculum is that it is integrated. The benefits are that the integrated curriculum allows for skillbuilding and reinforcement of cognitive material throughout the educational experience. For example, in the area of periodontology, the basic structures are taught in Developmental Dentistry and simultaneously the basic concepts of controlling periodontal disease are taught in Clinical Dental Hygiene I. Each subsequent semester more detailed information is taught. A higher level of cognitive and skill proficiency in recongition and control of periodontal disease is expected in the following courses:

Nutrition
Clinical Dental Hygiene II, III and IV
Dental Radiology
Periodontics I
Community Health I and II
Pharmacology
Pathology and Periodontology II

Another area, research, which currently is a less traditional role also is heavily integrated through the curriculum. The benefit is the application of the scientific method and research process in a variety of formats. Many of the courses require literature critique and reviews, and implementation of a planning process. Researching, planning, implementing and evaluating services not only for individual patients, but in at least one community project and several course projects allow students to apply the concepts.

The process of developing and presenting scientific table clinics also allows for research experience. The intent is that by integrating research concepts in many areas, the researcher role will become a traditional function of the dental hygienist. Courses which require specific experience in research knowledge and skills are:

Psychology
Clinical Dental II, III, and IV
Periodontics I
Community Health I and II

Pharmacology
Dental Therapeutics
Pathology and Periodontics II

5. Another feature is that the curriculum provides quality education for and skill development in all six roles: the clinician, administrator/manager, change agent, patient/consumer advocate, the researcher and the educator/health promoter.

The *benefit* of this feature is that learning is facilitated through both academic and non-academic activities, as summarized in Attachment D. These activities provide for the application and integration of the six roles into a single professional. Examples of *Academic Activities* which are defined as those being evaluated and part of the curricular experience follow:

> *Screening Clinics* - required in Clinic III and IV. Students function much more independently as clinicians and decision makers in a triage situation.
>
> *Special Projects* - to be completed during the last semester so that all knowledge and skill areas are incorporated.
>
> *Table Clinics* - provide experience in a planning and developing process. They also can be utilized to address the aspect of team building.
>
> *Extended Campus Sites* - e.g. schools for deaf or blind, programs for developmentally disabled, geriatric facilities, HMO's, etc. - carefully chosen and monitored to provide challenging experiences with special population groups in their own environment. Long term planning and development of the sites is done by teams of students providing them with unique experiences. (Can be up to 50% of Clinical).
>
> *Clinical Assistant/Supervisor* - gives the student opportunity to function more in the management role.
>
> *Independent Studies* - designed to meet the needs of individual or small groups of students. These could be designed to enhance a number of academic experiences.
>
> *Preventive Strategies Projects* - integration of preventive concepts learned in several courses and applied to clinical patients in a structured and monitored manner. Both the process of prevention and the end product are evaluated through a well structured project.

Periodontal Profile Project - similar to the preventive strategies project but specifically designed to monitor and evaluate the students' assessment, diagnosis, planning, monitoring, and treatment of a periodontally involved clinical patient.

Case Study Project and Presentation - a cumulative project in the sixth semester, combining the preventive strategies and periodontal profile experiences integrating and applying all concepts.

In-depth Study of Special Patients - an integral part of both Clinic II and III. The students research information on assigned target populations. Application of this information is accomplished in the clinical facility and at extended campus sites during Clinic III and IV. Individual programs should be designed to reflect the demographics of the area.

Structured Observations in the Private or Alternative Practice Setting - provides experiences not available in the educational setting. In addition the contact with professionals in the area is advantageous for all.

Oral Health Products Research and Presentations - students research and evaluate the wide variety of products available, and determine the availability and cost to consumers. This is an important activity before students begin to recommend products to patients.

Teaching/Learning/Style Inventories - useful in determining the approach you choose to use in working with the individual classes. Current research also shows that a higher level of cognitive learning can take place just by the students being aware of their individual learning styles.

Non-Academic Activities - defined as those outside the curriculum or classroom, also can provide meaningful learning experiences. Some examples follow.

Student Liaison Committees - have proven to be viable mechanisms for students and faculty to solve logistical problems relative to the program and can be a model for the change agent role.

Of course, participation in the Student American Dental Hygienists' Association provides a variety of experiences in many areas of professional development. Planning and implementing capping, pinning or graduation ceremonies provide experiences in financial and logistical planning for students.

Extended Campus Sites - meetings can be designed to facilitate sharing experiences and help in the planning process for those sites. Activities like "toothbrush trade-ins" give students an opportunity to plan activities for the community and meet the local consumers, while promoting good oral health.

Mentorship programs in which alumni assist with the transition from a student to professional role and emphasize concepts of life-long and association memberships.

Liaison Panels - with other allied health students reinforce collaboration for health promotion and change agent roles.

College Government - participation aids in skill building for the legislative process, and the change agent role.

Then of course there are a variety of volunteer activities that promote dental hygiene and health care. These mechanisms allow for the modeling of professionalism in a low risk environment. They and similar activities can help nurture self-esteem, leadership, and professionalism.

6. A critical feature of the curriculum is that it is competency based.

The benefit of an integrated competency based curriculum is the "built-in" quality control monitoring system. If content or skills in an area are below an acceptable level it would be difficult, if not impossible, for a student to progress through subsequent courses. The greatest benefit is that the structure of this competency based curriculum leads to quality control.

7. The seventh feature of the curriculum is that it provides an opportunity to individualize the curriculum to meet educational goals. The benefit is that independent studies have been identified as an effective mechanism to meet a student's specific area of interest or to enrich professional skills.

Some examples of independent study are:

- Participation in a professional organization meeting
- Inhalation sedation
- Research
- Administration/Management
- Gerontology and many other courses could be developed.

The second benefit of this feature, individualization, is that through an articulation process further development in several roles can be achieved, allowing interested and talented students to become not only generalists in the six roles, but also specialists in an area. A student could increase her knowledge and skills as a periodontal therapist, as health educator/promoter, or as manager/administrator by continuing in the program to receive a bachelor's degree.

8. The eighth feature unique to this curriculum is an integrated management course. The primary benefit of this feature is that enhanced management/administrative skills will be developed.

Since the course is designed for all allied health students, an additional strong benefit is exposure to and collaboration with other health professionals of the future which support the professional development of the dental hygienist.

9. The ninth feature is that this curriculum is community oriented. This futuristic direction can be implemented in a variety of community projects. The curriculum provides for:
- involvement with special population groups
- involvement with professionals in the community
- collaboration with other health professionals
- access to community leaders and decision makers
- a mechanism for community volunteerism.

10. One of the strongest features of the model is that by the nature of the institution, a community college, the program and its curriculum are community oriented. The benefit is that in meeting the needs of the local community, we are advocating and modeling the principles of consumerism, another expanded role of the dental hygienist in the 21st century.

It appears that local control usually provides for sensitivity to community trends, cultural needs and changes, which is another benefit. A third benefit is that it provides ready access to quality oral health care for the consumer. And community college philosophy effectively dovetails with the goals and philosophies of Workshops I and II, Excellence and Access.

11. Last and most important, this curriculum model provides for the development of a desirable end product. The benefit is the education of a competent dental health professional who is able to function in a variety of health care settings.

Again, perhaps the strongest feature of this curriculum is that it is offered in a community college. A community college is a unique and exclusively American institution. Because community colleges are non-traditional changes occur rapidly and easily. Community colleges by nature are designed to meet the needs of consumers. Planners for community colleges are incorporating the same demographics and technologies considered in Workshop I. Currently, adult learning and life-long learning centers are being established to address the increase in the average age of students.

Technologies and changes in the educational process will have the strongest impact on educating the dental hygienist of the 21st century. Interdisciplinary education, telecommunications, computer assisted instruction, and interactive video programs, already have eased into community colleges and dental hygiene education.

I'd like to share a few lines from a publication on community colleges. "It may be best to characterize community colleges merely as untraditional. They do not follow the tradition of higher education as it developed from colonial colleges. Community colleges do not even follow their own traditions. They change frequently seeking ever-new programs and clients. Community colleges are indeed untraditional, but they are truly American because at their best, they represent the United States at its best. Never satisfied with resting on what has been done before, they try new approaches to old problems. They maintain open channels, and they accept the idea that society can be better, just as individuals can better their lot within it."

As we look to the future and plan for change in dental hygiene, we should consider the environment most open to changes, the community college.

COMMUNITY COLLEGE
DENTAL HYGIENE PROGRAM
PHILOSOPHY AND GOALS

The intent of the Dental Hygiene Program is that the graduating dental hygienist will exhibit characteristics of a competent preventive professional meeting the oral health needs of the consumer now and in the future by:

1. Providing preventive therapeutic oral health care:

   a. possessing appropriate knowledge and clinical skills (patient assessment, instrumentation and selected skills, intervention skills, treatment planning, radiology technique and interpretation and the use of technology in applying clinical skills),

   50% b. designing, monitoring and delivering preventive care in a variety of health care settings,

   c. synthesizing and applying research findings, preventive concepts and services, and

   d. internalizing and promoting health and wellness.

2. Possessing the personal attributes of a caring, empathetic, problem-solving individual by:

   a. establishing effective interpersonal relationships with consumers, peers, instructors, other health professionals, and community resource personnel,

   15% b. acknowledging problems and using intervention skills in seeking acceptable solutions,

   c. possessing the ability to self-evaluate and apply the principles of quality assurance, and

   d. promoting wellness for oneself.

3. Internalizing and demonstrating professional characteristics by:

   a. actively participating in the ADHA and adhering to the ADHA Code of Ethics,

   b. exhibiting professional appearance,

   10% c. accepting and following through with professional responsibilities,

   d. effectively managing time and stressful situations,

   e. promoting and recruiting for the dental hygiene profession and program.

4. Integrating current educational experience to be adaptive to lifelong learning by:
    a. interpreting, evaluating and applying research findings to dental hygiene and health practices,
5%
    b. participating in the advanced study and research of oral health care practices.

5. Promoting community health and service by:
    a. synthesizing and applying preventive concepts and services to the community,
    b. participating as a change agent,
15% c. participating as a consumer advocate,
    d. collaborating with other health care providers by integration of oral health with total health needs,
    e. working in collaboration with other professionals, agencies to provide health education in order to influence behavior.

5% 6. Pursuing interest in advanced study in dental hygiene.

ATTACHMENT B

COMMUNITY COLLEGE CURRICULUM OUTLINE

I.	CHEM 122	Chemistry (BK)	5	
	ENGL 121	Composition I (BK)	3	
	SOC 122	Sociology (BK)	3	
		Math Elective (BK)	3	
		Humanities and/or Language Elective (BK)	3	(Total 17)
II.	BIOL 225	Physiology (BK)	4	
	PSYC 130	Psychology (BK)	3	
	BIOL 146	General/Head & Neck Anatomy (C), (BK)	4	
	SPD 120	Interpersonal Communications (BK),(P/CA)	3	
	POLS 122	Power, Politics and Economics (P/CA)(E/HP)(C/A)(A/M)	3	(Total 17)
III.	DHYG 121	Clinical Dental Hygiene I(C)	6	
	DHYG 125	Developmental Dentistry (C),(BK)	4	
	BIOL 230	Microbiology (BK),(C)	3	
	BIOL 235	Nutrition (BKO)(C)(P/CA)(E/HP)	3	(Total 16)
IV.	DHYG 140	Clinical Dental Hygiene II (C)(C/A)(E/HP)(R)	6	
	DHYG 142	Dental Radiology (C)	2	
	DHYG 146	Periodontics I (C)(R)	1	
	DHYG 148	Community Health I (/A)(P/CA)(E/HP)(R)	1	
	BUS 122	Management in Allied Health (A/M)(C/A)(P/CA)	3	(E/HP)(R)
	BIOL 226	Pharmacology (C)(BK)	2	(Total 15)
V.	DHYG 221	Clinical Dental Hygiene III (C)(A/M)(C/A)	7	(E/HP)
	DHYG 230	Dental Therapeutics (C)(P/CA)(R)	1	
	DHYG 240	Community Health II (E/HP)(R)(A/M)(C/A(P/CA)	2	
	DHYG 235	Dental Materials & Technologies (C)(P/CA)	2	
	DHYG 225	Pathology and Periodontology II (C)(E/HP(P/CA)(R)	3	(Total 15)
VI.	DHYG 250	Clinical Dental Hygiene IV (C)(A/M)(C/A)(P/CA)	7	(E/HP)
		Independent Study-Electives	1-4	(Total 7)

Upon completion of these 87 credit hours, the student is eligible for graduation with an Associate of Science Degree in Dental Hygiene, and to enter the dental hygiene profession. The student will have the option to continue and complete requirements for a Bachelor of Science Degree with a cooperative agreement with a local university.

BK - background knowledge
R - research
C - clinical
A/M - Administration/Management
C/A - Change Agent
P/CA - Patient (consumer) Advocate
E/HP - Education/Health Promotion

ATTACHMENT C

Feature	**Benefit**
1. Efficient	Time Money
2. Versatile	3 Year 1 Plus 2 Year Prerequisites and 5 Semesters
3. Integrated	Reinforcement
4. Research	Application of Concepts
5. Quality in all Six Roles	Mechanisms for Application
6. Competency Based	Quality Control
7. Individualization	Meets Student/Consumer Needs "Generalists" or "Specialists"
8. Integrated Management Course	Enhanced Management Skills Collaboration with the Health Professionals
9. Community Oriented	Futuristic
10. Community College	Need Met Sensitivity Access
11. Desirable End Product	Competent Generalist

Possible Mechanisms to facilitate the application and integration of the six roles of the dental hygienist:

ACADEMIC

Table Clinics
Screening Clinics
Special Projects in Last Semester
Extended Campus Sites
Clinical Assistant/Supervisor
Independent Studies
Preventive Strategies Projects
Case Study/Presentation
In-Depth Study of Special Patients
Observations in the Private Practice Setting
Oral Health Products Research and Presentation
Learning Styles Inventories

NON-ACADEMIC

Student Liaison Committees
Student American Dental Hygienists' Associatin
Student Committee for Capping
Participation in ADHA District Conference
Extended Campus Site Meetings
Toothbrush Trade-ins
Mentorship Program with Alumni
Health Eductaion Liaison Panel
Student Senate (Government)
Participation in Health Fair
Participation in Career Days
Volunteerism for Community Service

Reaction Paper: Sample Curriculum in a Community College Setting

Denise Bowen, RDH, MS

In the absence of a philosophy statement, it is difficult to determine the rationale for this curriclum. As a result, certain assumptions have been made concerning curricular emphasis based upon the stated goals. It seems that the graduate of this entry level program would be prepared primarily for the clinical role and secondarily for the research and health promotion roles. The change agent and consumer advocate roles would be included to a more minor degree and the administrator/manager role is largely ignored. Again, these assumptions are based solely on the stated goals.

When turning to the actual curriculum proposal, several fundamental issues are raised. I will open my remarks by quoting Dr. Lindeman once again. She wisely cautioned us, "From my perspective in nursing, I would urge that you set your goals higher rather than lower, or by the time you get there society will have moved further, faster and you will be at the low end of the educational pole."1

It also is my understanding that the consensus at Workshop I indicated that our preferences are: 1) to move away from job-oriented technical training toward a broader-based education, and 2) to establish the entry level at more than two years, with a vast majority supporting the baccalaureate degree in dental hygiene.

Based on this preface, I laud the concept presented in which the community college establishes a cooperative agreement with a local university for degree completion. I must, however, question the mechanisms by which entry level and career ladder options have been designed.

First, it is inappropriate to require students to attend three years of college and complete 87 semester credit hours for an associate degree. At most institutions, students attain junior standing at 58 to 60 semester credits and senior standing at 88 - 90 semester credits. It should be possible to complete associate degree requirements in two academic years. Also, realistically, we must admit that an associate degree implies technical orientation.

I pose these questions for your consideration. Are we being fair to dental hygiene students when we require three years of academic preparation and grant them an associate degree? Will we be able to attract high caliber students in the 21st century with this disparity? Does this curricular model create a better image of dental hygiene and foster growth as a profession? I believe not.

Second, based on these concerns, is it appropriate to offer an option for dental hygiene students to continue and complete a bacclaureate degree? If this year is optional, will all entering dental hygienists be able to function in the six roles comprising the total of the future dental hygienist? Again, I believe not.

If we examine specialized courses for role preparation in this model, as in the other two proposals, it is clear that clinician preparation is the primary focus. All other roles are addressed cursorily. The health promotion role remains.

Of the two one-credit courses devoted to community health, the first course includes nearly the entire research component of the basic curriculum. Some literature review also is included in other dental hygiene courses - a valuable experience, for sure. This content in research methodology cannot adequately prepare graduates for the research role, as defined at Workshop II.

Change agent role preparation begins with a desirable foundation course entitled,"Power, Politics and Economics." This subject matter is further addressed in the second one credit community health course. The role of consumer advocate also is addressed through a couple of lectures in this same course.

The "Management in Allied Health" course offering is an excellent introduction to administration and leadership. More curricular content in this area certainly is warranted. For example, one lecture on computer usage is not adequate.

The independent study electives theoretically offer students an opportunity to advance in these various roles. While the experiences offered in these courses are innovative and applicable to the future, the one credit allocation is insufficient for the depth and breadth described. Each of these courses should be expanded and all students should participate in them to provide experience in each role. First, however, the students must have prerequisite knowledge, attitudes and skills to successfully complete the independent study. For example, more background in research would be necessary before students could conduct a research study.

Finally, I would like to comment on the courses to be completed under the cooperative agreement with a local university. The course titles and content are pertinent to the established roles of the future dental hygienist. Unfortunately, all but one course carry an allied health prefix. Also, 500 and 600 level numbering generally denotes graduate level courses. If this is the case, dental hygiene student transfers lack adequate preparation for these courses. But, most importantly, it is unclear to me whether the bachelor of science degree is to be granted in dental hygiene. If it is, upper division coursework must be primarily discipline specific. If the degree is not intended to be a bachelor of science degree in the discipline of dental hygiene, then dental hygiene will continue to be technically based. Thus, we will lose the opportunity to be recognized as a profession.

Dental hygiene educators and practitioners are asked to forecast the changes which are inevitable in our field and in society and to make some tentative suggestions about those areas which deserve attention in our nation's schools. The dental hygiene profession should make certain that all of its components join together in creating the future. All health professions are facing changing roles in the years ahead. We cannot afford to close off new ideas and expanded horizons in the hope that external factors will disappear. Change is not only ievitable, but essential. We do have a chance to make this challenge work for us. Anticipating changes in dental hygiene education and broadening our horizons will facilitate the evaluation of dental hygiene practice and the ability of future graduates to survive these changes. Let us not deny them the necessary knowledge base.

References

1. Lindeman, C.A. "Higher Education and the Health Professions," Dental Hygiene Education Workshop Proceedings, Denver Colorado, July 22-23, 1984, p. 28.

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Nancy Cooper, RDH, MS

The first paragraph in the stated philosophy directly expresses the goal of the curriculum, "to meet the oral health needs of the consumer." This is the primary purpose of the profession and is well received. The goals support the stated philosophy. The content descriptions are based on a logical sequence for knowledge/skill learning.

The time allocation requires careful evaluation though. As the curriculum outlines the courses and attempts to encompass all six roles only "bare bones" courses are provided for several roles. For example for the research role a one-hour course in research does not provide the time or background needed to teach the student enough useful information.

To prepare for the futuristic roles discussed in Workshop I and II there should be no stated "option" to go on to a local university; rather it should be required. Eighty seven credit hours do not allow enough information or time for preparation for the six roles effectively. The option should be changed to a requirement. The entire curriculum, not just part of it, includes preparation for the six roles identified as minimal entry level.

As a practicing hygienist I am concerned about the frustration in completing an 87 credit hour program and only receiving an associate degree. The 87 credit hour curriculum is adequate for the initial phase. But, to meet the needs of the consumer and to prepare graduates for the other five roles the additional hours in a local university should be included in the required degree program. The community college may serve as a feeder college to the cooperating university.

The courses given through the cooperative agreement with the local university are contemporary and innovative. I applaud their design. "Legal Aspects of Health Care," "Financial Management for Allied Health Professionals," and "Implementing the Educational Process Within the Health Care Setting," are progressive subjects that directly meet the requirements of the roles.

A language requirement could strengthen this curriculum. As relayed to us in Workshop I, the number of hispanics in the U.S. is increasing faster than that of any other ethnic group. The rapid growth of racial and ethnic minorities, especially Spanish speaking and Asian Americans, is seen as another challenge for future dental hygiene practice. Felix Kaufman states, "If in the 1990s, the U.S. will be a bilingual nation. As some prognosticators believe, dental hygienists will need to communicate in both English and Spanish. In order to be effective communicators and change agents, dental hygienists will need to use preventive intervention skills relevant to culturally diverse populations that will exist in this country. Without comprehensive knowledge and understanding of the attitudes and cultural values or these populations, prescribed preventive dental hygiene interventions may not be compatible with cultural characteristics of the given population." A basic knowledge of a second language i.e. Spanish will be necessary. A return to the two semester language requirement needs to be evaluated for consideration. Universities could also provide additional courses for dental hygienists such as:

1. Spanish for Professionals - 3 credits: A specially designed course for professionals in the fields of medicine, law, dentistry, and business. Attention given to specialized professional vocabularies.

2. Intercultural Communications - 3 credits: A course which examines cultural influences in interpersonal communication across ethnic boundaries.

With the great demographic swing in population, and the aging of our society, specialized courses in aging need to be considered: i.e.

1. Aging: A Psycho-Social Exploration: An introduction to the process of aging and the problems of the aged. An examination of the life changes which occur during the aging process with a focus on the social and psychological aspects.

Let us not fail to recognize the future of technology. In the next few years we should expect to see courses such as 1. Health Care in Space: which would deal with selected aspects of outer space, planning, implementing health care operations and special problems in health care delivery on space stations, etc. (Far fetched - I think not).

Final Comments

A true profession exhibits the quality of vision. In order to meet the ever changing health needs of the public we as dental hygienists must focus our cooperative energy on the future. To quote Cathy Turbyne from Workshop II, "We must define the dental hygienist of the future as a new flexible comprehensive model, multifaceted in education and ability, whose role is based on public need and national trend assessment."

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Life involves risk. Change means risk. But there is far greater risk in remaining complacent. That risk is to self destruct. Adaptability and change should be a result of changes in societal needs. Dental hygienists cannot allow themselves to resist change. We need to be willing to change and shape our future for the benefit of the consumer.

Reaction Paper: Sample Curriculum in a Community College Setting

Sally Deck, RDH, MS

The philosophy and goals as stated for this curriculum give a broad description for covering the responsibilities of the six future roles.

A comprehensive philosphy statement to set the stage is needed. Where and in what kind of society will this student function? We need to define the future population in terms of age, nationality (Hispanics), consumers, dental disease conditions that will require dental hygiene services, technology, and societal values we will be dealing with.

No principles are laid out or discussed to provide a system of beliefs or views to validate the goals presented. The futuristic concepts of Workshops I and II are missing in a philosophy format, and minimal entry level for the six roles is not mentioned.

Advanced study for a bachelors degree is supported and there is reference to service to community, collaborating with other health care providers, professionals and agencies. Interpersonal relationships with consumers and community resource personnel also are described.

The curriculum is at the college level and consistent with higher education courses as indicated by 100 and 200 course code numbers. The length is two years, articulating with a university for a bachelors degree. I am concerned about the listing of 400, 500 and 600 level courses for a bachelors degree. Prerequisites, for preparing students to take these level of courses are not clear. Allied health science courses covering skills/roles make up these courses. It would be nice to have such courses in the core of the curriculum, rather than as the option for the bachelors degree. The course, Periodontal Therapist, may be an obsolete course for the twenty-first century. As discussed in reactions to the previous two curriculums, course time may have to be changed due to teaching methods and new treatment technologies for preventing periodontal disease.

The design of the curriculum indicates basic and minimal arts and science courses. There is cursory coverage of several subjects and courses with heavy emphasis on technics in the curriculum. Language, included as an elective is very desirable but only one term is indicated.

In reference to content and function of this curriculum, the course and topic outlines include statements developed in Workshop II, including the skills and knowledge statements. Six roles are appropriately mentioned in course descriptions with information to be taught. It is good to see two community health courses. However, for the twenty-first century I again question the need for two periodontology courses and the amount of clinical time indicated.

In Clinical Dental Hygiene II the dental hygiene student observes practice in a health care setting. Observation does not seem to be a true learning experience, one must get into the situation and actually become involved in providing the treatment and preventive care. In Clinical Dental Hygiene III and IV, there is experience with special patients at extended campus sites; I would like to know more, e.g. how much, type of site(s) and population groups involved. The Independent Study electives are good courses that should be part of the required curriculum. It is nice to see the special attention given to a separate gerontology course.

I caution usKto again ask .... Has the "future picture", been drawn? Providing technics, dental materials, periodontology, and pharmacology courses does not support the philosophy of a solid knowledge based curriculum.

A future that IS different from today is what we need. The population is changing (i.e. age, sex, nationality). We need much less clinic in our future curriculum; we may not be scalers in the future. The consumer/patient roles are changed to one of participants in their own health care. It will be an informational society with unimagined ways of distributing knowledge faster, making it more exciting to learn and more person-centered.

Let's dream again. We will have health centers versus video centers. A person will walk in and stick their head in a box and sonic waves will be able to "read" oral health conditions. We may walk into pharmacies and rather than buying pregnancy tests and urine tests, buy oral heath analysis tests. You have all seen the new commercials with the cars and their TV scopes on the dash that give our outside and inside temperatures or needed health information.

It would be exciting to see the community college utilize its uniqueness, to devlop future courses. The community college has a philosophy that many people do not always understand. We think Dental Hygiene has an indentity problem! Community colleges likewise have an identity problem. And, they have the restriction of only being able to grant an associate degree. That does not mean that courses that are offered at universities cannot be offered in an educational setting called a community college. I'll give you one example. In our state there are only three institutions that teach Chinese; two universities and one community college. It can be done, courses can be equal to those of four-year degree institutions. But community colleges are allowed only to grant the associate degree. Therefore, for the future curriculum, I would support programs being articulated and associated with bachelor of science programs.

As discussed in the previous workshops, commerce and business will be involved directly with health care delivery in the future. One fact remains strong about the community college. It more closely serves the immediate community. Members of the community are the community college -- from business men/women to government workers, teachers, parents, etc. The community college establishes close relationships with boards of education, city councils, business and industry. Most programs of the community college are started because the local community needed them and the individuals from the city/community helped start the program. Any community college should utilize this characteristic in getting closer to the consumer and his/her needs (i.e. business and industry have started quality of life programs, and that interest in the health of their employees should be utilized - as mentioned in Workshops I and II). If we work with them they can help us achieve our goals. The Community College curriculum should take leadership in locating clinical experiences in the community/business/industry setting rather than the traditional on-campus clinic. Where the university curriculum may support research education and participation, the community college may better involve and relate to community health program and projects.

GENERAL ASSEMBLY REACTIONS TO SAMPLE CURRICULA

During the General Assembly participants had the opportunity to respond to the sample curricula presented. Their comments tended to reinforce opinions expressed by the panel of reactors. Paticipants concurred with the panelists that there was need to develop new curricular models that were more innovative and less tied to present curricular models.

Comments on the first sample curriculum focused on two key issues. One was the need to include more general education courses in the curriculum. Justification for this was based on the need for knowledge based courses relevant to concept building and fundamental to skill development for each of the roles. Additional opinions expressed by participants identified the need for defining dental hygiene from a broad educational base to insure flexibility and adaptability in a society characterized by rapid change and uncertain trends in health care delivery.

The second key issue which was addressed focused on the need to prepare a "generalist". Therefore, the curriculum should be designed to reflect a balance and integration of educational preparation in each of the six roles, rather than development of one or two roles. In essence, the curriculum must blend all six roles while balancing the need for general and professional education.

Other individuals expressed the need to educate the public regarding the roles and responsibilities that hygienists can be prepared to fulfill, and the potential benefits to society. It was stated that hygienists must be more visible to the public and emphasize their role as consumer advocates. The closing remarks reminded the audience of the need to develop the science base necessary for dental hygiene to become a profession.

At the completion of the second curriculum presentation, the workshop participants' comments were limited to three basic issues. The first was a reiteration that the curriculum served as a transition to planning for the curricula of the future. Although transitional in nature, it did provide the impetus for participants to think about what courses would and would not be needed to prepare the dental hygienist for the 21st century. The second comment reaffirmed that autonomy in education and practice was essential to the professionalization process. Control of the accreditation and licensure process were identified as critical issues facing our profession. Further, the use of dependent terms, such as auxiliary, should be disassociated and deleted from any reference to dental hygiene. The final comment emphasized the need for increased educational preparation in communication skills. Direct means would include public speaking courses while indirect methods would involve the application of theory and skills through care of routine and special patients, formal presentations at professional meetings, and practicums in which students would function as patient advocates. It was stated that the dental hygienist of the future would need a working knowledge of communication fundamentals including theory as well as process.

The final session, immediately following the third curriculum presentation, involved a candid and frank exchange of comments between participants and panel reactors. At this point in the workshop deliberations, both educators and practitioners openly verbalized the challenges they would encounter when they begin to implement changes in the educational standards. Concern was expressed over the possible reduction in the importance of the clinical role. Associated with this concern was the effect this reduction in the clinical role would have on the consumer. Fear was expressed that if dental hygienists abdicated their clinical responsibility, the primary impetus for significantly reducing or eliminating periodontal disease in the population would be lost. It was the consensus that dental hygiene must continue to maintain its historical commitment to the public in the prevention and control of periodontal disease. Panel reactors and many participants stated that there was no intention to dilute the clinical role but rather there was need to redefine, broaden and adapt this role to projected changes in the health care delivery system. This adaptation, along with the development of the other five roles, was understood and accepted by the majority as crucial and synonymous with dental hygiene's survival in the 21st century. It was suggested that participants needed to consider re-evaluating current content and time devoted to certain clinical topics in the curriculum as it exists now. Further, use of computer technology would alter teaching strategies and perhaps reduce teaching time in many areas.

Another major topic discussed in depth related to the present length of certificate and associate degree programs. Implementation of the transition from the certificate or associate degree to baccalaureate degree education as the minimum entry level for dental hygiene practice also was identified as a major area of concern. Many participants shared their experiences of developing articulation agreements with local universities. Although problems existed in creating cooperative arrangements, several participants noted their success and reaffirmed the necessity to move in this direction over the next few years. It further was noted that given the universal enrollment declines in higher education, university administrators would be more receptive to cooperative arrangements in order to tap potential student resources. Participants also expressed a need for assistance in developing proposals to convince higher education governing boards as well as four-year college and university officials to institute new baccalaureate programs. Participants who represented existing baccalaureate degree dental hygiene programs were asked to provide community colleges with suggestions for developing articulation programs with four-year colleges and universities.

Associated with the transition from varying degree options to a single degree requirement for professional entry was the issue of preparing to become educationally proficient in each of the six identified roles. Participants expressed concern regarding this but also offered suggestions for consideration, such as credit for experiential learning, internships and practicums, and telecommunications courses. Because the practitioner is a different type of learner, consideration should be given to providing segments as well as entire educational programs.

Because of current declines in dental hygiene enrollment, participants questioned whether there would be a sufficient number of applicants to fill the baccalaureate programs of the future. Many participants responded to this by suggesting that if dental hygiene offered potential applicants a future that had increased professional responsibility, more qualified individuals, both men and women, would be attracted to dental hygiene as a lifetime career. It was felt that recruitment would continue to be a problem until dental hygiene became autonomous. Many believed that by increasing the educational standards, problems of recruitment would be reduced. Participants also indicated that although employment currently may not be available in all geographic areas, the dental hygienist of the future who is prepared to function in multiple roles would be able to create jobs beyond those which presently exist. In addition, the opinion was expressed that dental hygienists as members of interdisciplinary teams will need to be prepared at an educational level that is comparable to other health professionals, namely the baccalaureate level.

Finally, participants addressed the need for theory development. It was pointed out that although the three curricula presented provided interesting methods and strategies for teaching current concepts, the theoretical basis for future practice does not exist. If dental hygiene is to develop a unique body of knowledge, it will require developing new combinations of knowledge from the social, behavioral, and biological sciences and the creation of new knowledge by placing increased emphasis on dental hygiene research. Dental hygiene cannot develop learning strategies until the theoretical knowledge has been defined. To paraphrase one of the participants, "For dental hygiene to function with credibility and expertise in a changing society, we must understand the concept of prevention as a complex societal undertaking, not as a process of things to do."

Strategic Planning

One of the most difficult tasks that faces dental hygiene programs is the implementation of a new curriculum in today's academic environment. With this in mind, the participants were given an opportunity to examine and discuss the process of succesfully implementing a curriculum based on the future roles of dental hygienists.

To that end, the committee asked individuals to develop case studies which provided a framework for groups to utilize in exploring external and internal factors which influence the implemention of a new curriculum.

The case studies were addressed by small groups during Workshop III. Each group was provided one case study and given specific tasks to accomplish. The outcomes were reported to the entire group of participants. The groups identified strategic problems involved with sociologic/demographic factors, economic conditions, political issues, the structure of higher education, fiscal conditions and the professional community. Action plans were formulated to enable the groups to attainment of the goal of "moving from the current system of dental hygiene education to a broad based plan utilizing statewide resources to institute a dental hygiene curriculum."

The case studies enabled the participants to work through existing conditions, many of which may be similar to conditions in their state. This exercise was intended to assist and prepare the educational community for future curriculum development.

STRATEGIC PLANNING WORKSHOP GROUP REPORT

STATE A (TULIP)

The objective formulated by both groups was to organize the state's three existing programs into an integrated dental hygiene education system designed for baccalaureate level entry into practice. The objective as refined further by one group was to create a program with the dental hygiene curriculum integrated throughout four years, which would provide a uniform educational base and establish the baccalaureate degree as the minimum credential for licensure.

The first step identified is to better define resources, particularly funding for higher education and to develop a strong document on the benefits of dental hygiene baccalaureate education for the consumer. A program to inform consumers of the oral health needs of the state population should be launched. The justification for initially working with consumers was that consumer demand for dental services probably will be the most convincing reason for establishing a new educational system.

Internal and external support groups would be identified. Internal support could include educators, practitioners, and student organizations. Examples of external groups are consumers, business and industry, legislators, and targeted population groups.

The second step in the plan is to gain the consent and the cooperation of the university and the dental school. The cooperation must be secured because of the effect that a four-year state wide curriculum would have on the university. Cooperation of faculty, administrators, and alumni of the technical college and community college dental hygiene programs also must be acquired. These programs would be affected. The community college is located in a rural area and provides service to the rural and isolated students. It is locally supported and is currently linked to other institutions for degree completion programs. These factors are considered justification for continuing the community college program with a curriculum which is modified to link with another institution for award of a bachelors degree.

The next step would be to enlist support of the state board of higher education for the integrated baccalaureate entry curriculum. This step is critical because that agency has authority for the entire higher education structure in this state.

The last and most crucial strategy would be to convince the legislature of the benefits of baccalaureate dental hygiene education to the state and specifically consumers. It was considered critical that legislators believe that liberally educated dental hygienists who are capable of functioning in all six roles will best serve the needs of the culturally diverse state population. Only then will the legislature provide the resources needed to attain the goal.

It was noted that each phase of the plan must be accomplished before the next phase, because each target group will act as an ally for gaining the support of other groups. Another requirement for implementing the strategy is funding. The funds would be used to provide support for lobbying and generating data needed to gain support for the proposal. Data indicating such things as how the reorganization would effect the funding of institutions would be needed. Resource people should be available in the state to assist with data collection.

STATE B (ROSE)

The objective established by both groups was to develop strategies to move dental hygiene education from the current system to one that provides only baccalaureate entry level programs. One group noted that activity must occur simultaneously at the national and state level if the objective is to be attained. It must occur in the legislative, educational and professional arenas.

One group proposed that the state dental hygienists' association would need to initiate action and provide funding, although outside funding from existing resources would be utilized when possible.

The initial step of the plan would be to assess the consumers' dental needs. One group felt that current data from state and federal agencies could be analyzed to provide information. Next, it would be necessary to establish a dental hygiene manpower data base, including data on educational credentials, entrance and post-associate degree education, practice settings, employment characteristics, demographics, and political and volunteer activities. All licensed dental hygienists would be surveyed utilizing identification resources of the state board, dental hygiene programs and alumni groups.

It is proposed that the American Dental Hygienists' Association serve as a center or clearinghouse for nationwide data collection to assist states in developing justification for changes. Also, ADHA should develop and adopt curriculum guidelines and accreditation standards.

A full scale public relations program to inform consumers of the value of a baccalaureate degree education in dental hygiene would follow. Association members, alumni groups and media contacts would be utilized. A solid funding base would be needed to develop programs designed to reach diverse populations. Dental hygiene programs would be encouraged to form or revitalize alumni groups to plan and implement projects such as fund raising. Faculty and graduates of each program would be essential resources in this endeavor.

A strong legislative program would be launched to change the law. A legislative action plan would be organized to include grass roots involvement, a lobbyist, PAC activities, coalition building, and educating legislators and the board of higher education. In addition to using funds available from the state association, application would be made to the American Dental Hygienists' Association for G-1 funding.

It is essential that dental hygiene educators in this state arrive at consensus on objectives and develop curricula that are consistent with national guidelines. Finally, funding sources for pilot projects would enhance achievement of the goal.

STATE C (CARNATION)

Both groups defined the strategic planning objective as establishing baccalaureate dental hygiene curricula in the state. One group defined the objectives specifically as articulating the three existing dental hygiene programs to provide three courses of study leading to baccalaureate degrees. The second specified that the objective was to establish a baccalaureate curricula to reflect the educational preparation for the six identified dental hygiene roles.

The latter group devoted their time to what they considered the preliminary step in obtaining the objective, that is determining or documenting that baccalaureate entry level education is in the public's best interest. The group felt that the first step would be the completion of a broad-based needs assessment which should include but not be limited to manpower data, epidemiology and oral health status of the public. The data would be used to evaluate the six roles for congruence between the roles and needs. Further, a determination would be made as to whether the roles could be filled by other professionals or other educational processes.

Current dental hygiene practice in curricula would be evaluated in relation to the roles. Finally, the group projected that with information, curricular changes could be proposed to educate dental hygienists to assume the six roles. Implementation would follow based on the determination that a baccalaureate degree would be required for entry. Legislative activity is the first step to implementing the change to require a baccalaureate degree for licensure. The second step would require internal change within the state's dental hygiene programs to establish a commitment to baccalaureate education.

The other group identified needs assessment, determination of cost effectiveness and planning for additional funding as the first step. The group proposed that a steering committee comprised of representatives from dental hygiene education, the state dental hygiene and dental associations, the health planning agency, and the board of higher education be established to initiate action.

The second step was projected to be establishment of a task force comprised of representatives from dental hygiene education and practice, consumers and state legislators, alumni, third-party payment carriers, the state dental association and other health care organizations. The task force would develop the plan to achieve the objectives and evaluation methods. The task force responsibilities would include building coalitions, securing funding, developing articulation policy and curriculum standards, marketing and lobbying. The third step projected by the group was to implement the plan. The state board of education, regents/trustees of the higher education institutions, curriculum committees and the American Dental Hygienists' Association would be involved in implementation. Procuring funding also would be included in this step. Possible strategies for securing funds would be to identify grants which might provide monies for faculty support, or to contract with health care facilities for salaries or student stipends and student work/study programs.

Step four would be the evaluation of the plan/program which would be an ongoing process. Representatives from the state board of higher education, state licensing agencies, the ADHA, and health care provider systems would be involved in the evaluation. Resources needed to accomplish the proposed objectives would include committed individuals, money, existing educational institutions, state agencies, and information on health care needs and trends.

The steering committee and task force would be responsible for accomplishing steps 1 through 4. The justification for the plan would include results for the needs analyses, the cost containment effect, consumer benefits including the provision of care to underserved groups, consolidation of health care centers and reduction in cost of care due to an increase in oral health education and prevention. The implementation of the plan also would provide more professional credibility for dental hygiene graduates because preparation would be uniform, perceived status differences would be eliminated and employment opportunities would be equalized. It also would increase support for faculty and the number and caliber of applicants.

STATE D (DAISY)

The objective of the group was to establish baccalaureate program in dental hygiene in the state which would be designed to prepare graduates for the six identified dental hygiene roles. One group included establishment of programs for licensed dental hygienists to earn a baccalaureate degree and prepare for the six roles.

The first group projected a seven step plan. The first step or goal is to develop baccalaureate dental hygiene programs which have a strong theoretical base in the humanities, psycho-social sciences, basic sciences and dental hygiene science to prepare individuals to function in the six major roles with special emphasis on meeting the oral health needs of the elderly, culturally diverse and disadvantaged populations. The goal includes assuring access to the programs.

The first step in attaining the goal would be to develop curricula and student support services to facilitate recruitment and retention of nontraditional students as reflected in changing demographics. For example, flexible course scheduling, part time enrollment options, tutoring services at reasonable cost, flexible teaching strategies to accomodate various styles, appropriate faculty and role models, and child care facilities.

The next step would be the development of a state wide consortium of institutions of higher education. The role of a consortium would be to endorse inter institutional agreements; endorse articulation agreements between programs in the community colleges and university; establish program emphases to meet community, state, and regional needs; facilitate telecommunication; optimize transfer of credit from one institution to another; and provide for faculty exchanges and joint appointments. It was projected that educators in the consortium institutions, professional associations, dental hygienists, supportive politicians,and businesses and industries with vested interest would be responsible for development of the consortium.

The third step in attaining the goal would be to develop a plan for influencing legislators, which includes training for practicing and student dental hygienists, coalition building, consumer involvement, lobbying, formation of PACs, petitioning, initiating legislation, and educating legislators regarding the value of dental hygienists. This step would be carried out by the consortium.

The fourth step would be to identify external funding sources for dental hygiene programs to supplement state funding sources. External funding sources might include foundations, alumni, philanthropies, research and special project grants, business/industry, and income generated from faculty practice and dental hygiene clinic use.

The fifth step would be to develop a plan for expanding the job market and career opportunities for the baccalaureate dental hygienist by establishing student practicums in non-traditional and interdisciplinary settings; professional image building; marketing dental hygiene to the consumer. It would also include establishing coalitions with other associations that already value dental hygiene services such as the American Association of Nursing Homes, Association for Mentally Retarded Citizens and the American Hospital Association.

The final step would be to develop and implement baccalaureaate curricula for reentering and practicing dental hygienists to prepare them for the six roles and to assure that the programs are accessible.

The resources to carry out the plan would include dental hygiene practictioners, faculty, legislators, lobbyists, interdisciplinary health care providers, marketing specialists, alumni, professional associations, higher education and relevant state agencies, mass media and research data. Facilities, equipment, and funding also would be needed. Responsibility for implementing the plan would rest with educators, consortium institutions, professional associations, dental hygienists, supportive politicians, and business and industries with vested interest.

Justification for the plan rests in the fact that there are large populations with culturally diverse and elderly segments that have health and education needs that are not being met. The magnitude of the need mandates retention of existing programs with significant revision. Specific dental hygiene program and curricular decisions based on assessment and needs documentation could be made effectively within the framework of a consortium of institutions of higher education.

It was recognized that state support for higher education is not in itself adequate, but in contemporary society this is a fact. Therefore, alternative funding sources need to be pursued aggressively as they are by other disciplines. The proposal would address concerns of or dissatisfaction voiced by dental hygienists including non-competitive career options, limited decision making power, limited upward mobility, low status, lack of job security, lack of autonomy, and technically based as opposed to knowledge based education. The group reinforced the position that the transition of dental hygiene to a profession capable of meeting society's needs requires evolution to a practitioner who can function in the six roles of clinician, researcher, manager, change agent, consumer advocate, and health promoter. For this reason, baccalaureate degree programs in dental hygiene must be established to prepare new and existing dental hygienists for expanded roles in health care and promotion.

The second group felt that the imminent increase in state wide government of community colleges was a movement that should be addressed promptly. The first step identified in taking action to capitalize on this movement would be to identify resources in the state dental hygiene association to initiate the action. The resources would include members and officers and dental hygiene educators. The group identified the power structures which influenced change in higher education in the state. The power structure includes the master plan review committee. The state board of higher education, the joint legislative committee, individual legislators and community college boards. The social power structure includes social security, medicare agencies and other third-party payment programs, funding agencies for aging and ethnic groups, private and special interest group leaders, and business and industry. The professional power group includes the dental hygiene association, professional organization boards and accrediting agencies. It would be important that once the resources are established the power structure be contacted, a network be developed and lines of communication strengthened. The network would be targeted to influecne the power structure. The group identified the need for ADHA to collect data to support self-accreditation and self-regulation.

STATE E (VIOLET)

The objective of the three groups was to institute a baccalaureate level dental hygiene education system in the state which would prepare graduates for the six dental hygiene roles. All groups identified the creation of an education network or commission or organization as the first step in attaining the objective. The commission or organization would be responsible for implementing the plan. Representation would be broadly based to include educators, university and college administrators, representatives from the dental hygiene association, dental hygiene practitioners, consumer groups, representatives of the dental community, business and public agencies and health care providers. The nucleus of the organization or structure would be a dental hygiene educator's network.

The second step identified by all groups was development of the data base for use in defining plans for dental hygiene education. Existing programs would be reviewed to explore issues related to duplication, articulation and expansion, as part of the data base development. One group identified the specific components of the data base. It would include manpower needs and assessment, both numbers and mix; potential and effective demand for oral health services; and curricular capabilities to produce desired dental hygiene graduates. This data would direct decision making concerning the numbers and characteristics of baccalaureate dental hygiene programs.

The curriculum would be developed to incorporate the six roles and the proposal for articulating programs to implement the new curriculum would be presented to the board of higher education and the federation of independent colleges and universities, with a request for approval and funding. One group specified that a representative of the "Dental Hygiene Education Commission" would present the plan to the board and federation. Lobbying would be needed to obtain state legislators' support and funding for the proposed plan. Dental hygiene educators would be involved in investigating funding sources within their respective institutions. Matching funds for legislative efforts would be sought from ADHA from the state dental hygienists' association.

One group specified that the steering committee would need to design a plan for implementation of three types of programs: a baccalaureate completion program for currently licensed dental hygienists, a baccalaureate program within the university, and a baccalaureate articulation program for the five community college programs. Each group identified the need for marketing to attract students, inform potential purchasers of dental hygiene care, inform governing bodies and educational institutions of the dental hygienist's role, and to inform consumers, legislators and other health professionals. All groups identified the need to develop political coalitions. One group specified that the institutions would utilized in-house monies for recruitment programs. Grants to supplement those monies would be solicited.

The final step in implementing the plan would be to evaluate the system and make appropriate modifications and improvements. Program directors would participate in the evaluation through the provision of data in a standardized format. The American Dental Hygienists' Association, state dental hygiene educators and practitioners and dental hygiene leaders would have specific responsibility for developing the data base, establishing the network and coalitions, and procuring support. One group designated the responsible body to be the steering committee. Another group designated a commission on dental hygiene education as the responsible body.

The data would justify incorporation of preparation for six roles into dental hygiene curricula, and in most instances, curricular revision. Expansion of curricula to incorporate that preparation would require baccalaureate level education. Conversion of all programs would insure a consistent educational background for dental hygienists entering the profession.

ACCOMPLISHMENTS AND CHALLENGES: RECOMMENDATIONS FOR FUTURE ACTION

You all have heard and read a number of times about the origins of this workshop series. I will not reiterate. It is worth noting however, that directors of dental hygiene programs turned to the American Dental Hygienists' Association to provide the forum for discussing the future of dental hygiene education and practice. That in itself is recognition that dental hygienists should be charting their future.

It is appropriate and necessary for us as dental hygienists to direct our destiny, and to focus on interests of society as well as those of dental hygiene as we do so. We all probably have lost count of the number of times we have been involved in regressive actions of groups who see dental hygiene as a threat to their goals, but express that threat as one to society. We have been dismayed by actions which contradict espoused principals. To cite just one example of the past, in 1976 a southern state dental society was responsible for the introduction of legislation to reinstate preceptor dental hygiene training in the state. The American Dental Hygienists' Association asked the American Dental Association to support formal education and the educational standards which it had developed, adopted, and applied in its accreditation activities. Although ADA policies consistently opposed preceptor training and supported formal education for dental hygiene practice, the request was denied.

It is obvious from the resolutions related to dental hygiene which were adopted by the 1985 American Dental Association House of Delegates, that dentistry does not and will not support dental hygiene when conditions are not in dentistry's favor. In the mid-1970's the ADA House of Delegates adopted a definition of general supervision, and over the past decade practice acts have been revised to allow dental hygienists to practice with general supervision. Despite the fact that there is no evidence to indicate any adverse affect on the public, the American Dental Association has elected to withdraw its support of general supervision, and thus limit the public's access to dental hygiene services.

The second resolution which states that two years of dental hygiene "training" is adequate for dental hygiene practice has to be considered provincial when one weighs the data on dental hygiene educational programs and the advances in science and technology related to dental hygiene practice. In fact, the vast majority of dental hygiene education programs currently are more than two academic years in length because dental hygienists must be prepared for a broader scope of practice than that which was the accepted "state of the art" in 1948 when that program length was established. Over the past four decades there has been a knowledge explosion in the disciplines which support dental and dental hygiene practice. The resolution also states that a baccalaureate degree is adequate for dental hygiene educators -- college teachers. That position suggests either a lack of understanding of education and particularly higher education or a desire to hold dental hygiene down. The resolutions on supervision and education of dental hygienists take us back to the 1930s.

As long as our defined scope of practice is in fact "part of dentistry", a phrase that appears in virtually all practice acts, dentistry's control of dental hygiene is legitimized. If we do not define our future education and practice in a manner which provides for recognition as a discipline and profession, we will survive only on the terms of another profession and as long as we are This reality has to be faced when we consider future direction for dental hygiene education and practice.

I am sure that it is as obvious to all of you as it is to the Steering Committee that we are a resource that society needs. We are committed to health promotion and are a strong and significant force in the arena of health care delivery. We do not need to apologize or feel guilty for what we have been and have done, or what we want to be or do. No one should make us feel guilty about aspiring to a better position for dental hygiene when the result is better service for society. On the contrary, we should feel good about these aspirations. Guilt would be appropriate if we did not have them -- if we chose to maintain the status quo and withold our services from society.

In these three workshops no one has suggested revolution. Virtually all participants have proposed or suggested evolution based on current knowledge, the best possible projections of the future, and most importantly the ever changing needs of our fellow men.

The challenges are to:

- heed what we have heard,
- have the courage to take risks,
- have the will to stand up for our convictions,
- move forward, but move with deliberate actions that are based on a soundly formulated and coordinated plan, and
- build on accomplishments and sustain the effort.

All too often we have held workshops, meetings, and conferences and have prepared reports, recommendations, and resolutions that have been relegated to the archives of good ideas and good intentions. Susan Miller said, at the outset of this workshop, "Our thinking, our attitudes, and consequently our decision making must catch up with reality." The workshops will have been rhetorical exercises if we deny the outcomes and move in the ways we have moved over the last 80 years. The educational standards or base for our practice virtually have not changed since 1948. Committees have made futuristic recommendations for change, but those recommendations have not been transposed into actions to effect change.

In 1940, almost a half century ago, an American Dental Hygienists' Association special committee, reflecting results of a survey of practicing dental hygienists, recommended that future study be given to advancing dental hygiene curricula to a four year course of study culminating in a certificate in dental hygiene and a bachelor of science degree. We do not have the luxury of another half century to advance. The restraining forces are not diminishing.

What have we accomplished in this series of workshops and what is it we can carry forward into action? One of the accomplishments is the consensus that dental hygiene must change, and that we must define ourselves broadly in future terms that will hold in a dynamic world. That was the major outcome of Workshop I. A second and equally important decision was that dental hygiene must become autonomous. It also was decided that to provide flexibility for change in a dynamic world, dental hygiene education must be knowledge-based rather than technically-based. The majority of the assembly in Workshop I took the position that the baccalaureate degree should be the entry education requirement in the future. None took the position that the currently prescribed minimum entry education requirement of two years would be appropriate in the future. There was a prevailing attitude that dental hygiene should direct change in dental hygiene roles and services, and that we will need knowledge and skills to effect change. Six roles were identified for dental hygiene practice; roles which respond to society's needs and provide the framework for a unique and dynamic definition of dental hygiene.

In Workshop II participants considered the six roles and the projected responsibilities, and modified the role definitions. They validated the need for the entry level dental hygienist to be prepared to function in all six roles in a variety of settings. They recognized that the roles are interrelated and interdependent and that all other roles support and advance performance in the clinical role. In total, the roles provide the basis for transitional and future practice.

It is a given that our knowledge base is centered in the clinical role. Our objective is to expand that base by developing and integrating the other roles which will enhance, rather than diminish our clinical role. By expanding our knowledge base in the social and behavioral sciences through development and implementation of all six roles, we will more comprehensively meet the needs of the consumer. The roles are a strategy for defining a unique scope of dental hygiene practice. The roles are vehicles for becoming autonomous.

In this Workshop we have recognized that curricula at all levels have to change. We have identified the need to emphasize the behavioral and social sciences as well as the basic and biomedical sciences in dental hygiene curricula. We have identified the need to develop new combinations of knowledge that will form the theoretical base for the roles and provide the substance of future curricula.

Yesterday and today we have realized that we can change the structure of dental hygiene education. We have realized that we must get on with obtaining the data which will provide the focus for acceptance and success. In other words, documenting and validating the congruence of the roles and society's needs. Hygienists' roles must be projected now on the basis of available data. Only then can the effect of hygienists functioning in those roles be evaluated and modified. If any curriculum is to prepare students for practice upon graduation it must be founded on projection, not on the "here and now". The data is available and some of it has been utilized in this workshop series. We need to collate the data, and analyze and apply it further to complete the task we have before us.

In the three workshops there has been an evolution. We have grown to a point where we are collectively examining our future and planning our course. Although we are not in agreement on all points, we have gained significantly in our ability to agree on some points including the ultimate goal, and our ability to understand the various advantages and disadvantages of different options. We have increased our "vision" and have identified barriers to advancing as a profession and means of breaking down those barriers. We have laid the ground work for dental hygiene to take the steps needed for professional maturation.

The dialogue on the issues has begun. We have accepted the need to change and recognize that there is work yet to be done. We know that we can work together and that although it is hard to think futuristically, we can and must do so. We do not have the luxury of basing the next half century of dental hygiene education and practice on the standards and needs of the 20th century.

The Steering Committee is close to completing its charge. The proceedings of this workshop will be prepared and distributed and the comprehensive report of the workshop series will be submitted to the American Dental Hygienists' Association. The committee has developed recommendations based on the consensus of participants in this workshop and its recognition that the American Dental Hygienists' Association must move forward in defining the future and professionalizing dental hygiene. In its report, the commitee will recommend that:

- The American Dental Hygienists' Association affirm that entry-level dental hygienists be prepared to assume responsibilities in the six roles of clinician, health promoter/educator, consumer advocate, administrator/manager, change agent and researcher, in a variety of settings.

- A task force be established to develop the knowledge and skills that are needed to assume the roles and responsibilities, for utilization in curriculum development.

- The American Dental Hygienists' Association seek seed money for innovative pilot programs in dental hygiene education which are designed to prepare graduates for future roles.

- The American Dental Hygienists' Association appropriate funds for competitive grants for student recruitment targeted to attract high caliber students into innovative dental hygiene programs.

- The American Dental Hygienists' Association declare its intent to professionalize dental hygiene, that is to establish the baccalaureate degree as minimum entry level for practice and to develop the theoretical base for dental hygiene practice.

Assembly Reaction

Following the closing comments and summary, the assembly was asked whether they had any reaction they wished to express. Participants applauded and offered comments which indicated support of the Committee's recommendations. It was suggested that a fourth workshop be held soon to further discuss and plan for transition in educational programs, specifically articulation between the various types of higher education institutions and dental hygiene programs. It was considered important to continue the momentum and planning for transition to enhance dental hygiene's service to the public and strengthen its role in health care delivery.

EVALUATION OF DENTAL HYGIENE EDUCATION AND PRACTICE WORKSHOP III

A questionnaire was designed for participants to evaluate the workshop. It included 19 questions to determine the extent of the participants' satisfaction with various aspects of the Workshop. Each question required a rating from one through six. A rating of one or two indicated the respondent was very satisfied; three or four -- moderate satisfaction and five or six -- dissatisfaction.

The questionnaire provided for evaluation of the extent to which the:

1. educational systems and strategies were proposed to prepare dental hygienists for future roles.
2. keynote speakers provided background and scope to support the goal.
3. curriculum presentations provided valuable information about curricular philosophy and content for the future.
4. panel reactors stimulated thought and discussion for the process.
5. workshop format provided an effective means for arriving at consensus including factors such as time and size of groups.
6. Workshop I and II Proceedings were accurate and provided adequate background.
7. location, accomodations and meeting rooms were appropriate.
8. and the registration fee and breaks/luncheon arrangements were appropriate.

Respondents were also asked to list three strengths and limitations of the Workshop, and to offer other comments.

The questionnaire was distributed to workshop participants exlusive of the Steering Committee members. Questionnaires were returned by 114 participants which represents a 53% return rate.

The mean for the 17 questions which required a numerical rating was 2.21 and the median was 1.98. The greatest satisfaction experienced by participants was associated with the format, background information, keynote speakers and local arrangements. All mean scores for these areas were 2.05 or lower.

Strenghts identified by participants included the well-prepared and organized presenters and group leaders; planning and organization of workshop; number and mix of educators and practitioners; and background information mailed to participants and presented at Workshop III.

Limitations expressed included the desire for ocntinued assessment of consumers and practitioners' needs in terms of the the oral health care delivery; and limited development of futuristic curriculums.

General comments made by participants indicated an overwhelming need for future workshops to continue the changes proposed and the development of appropriate strategy to implement the changes.

CURRICULUM PANEL

MODERATOR

Linda Hanlon, Acting Dean, Forsyth School of Dental Hygiene

CURRICULUM PRESENTERS

Kathleen Lukken, Weber State College

Cheryl Metzger, University of Maryland

Recie Pennell, Johnson County Community College

CURRICULUM REACTORS

Denise Bowen, Idaho State University

Nancy Cooper, New Mexico Dental Hygienists' Association

Sally Deck, Lansing Community College

CASE STUDY DEVELOPMENT

Therese Kopytko, ADHA Staff
Jackie Singer, University of Maryland
Beth Stolar, New Jersey Dental Hygienists' Association
Terri Tillis, Colorado Dental Hygienists' Association
Karen Trapnell, California Dental Hygienists' Association

STRATEGIC PLANNING SESSION

MODERATOR

Dr. Dona Wayman, Director, Columbia University, New York

GROUP LEADERS

Connie Edstrom, Nebraska Dental Hygienists' Association

Michelle Darby, Virginia Dental Hygienists' Association

Jane Forrest, New Jersey Dental Hygienists' Association

Debi McFall, Colorado Dental Hygienists' Association

Kathleen Morr, University of North Carolina

Susan Peterson, Northern Arizona University

Robin Rausch, Washington Dental Hygienists' Association

Joni Self, Loma Linda University

Jackie Singer, University of Maryland

Beth Stolar, New Jersey Dental Hygienists' Association

Terri Tillis, Colorado Dental Hygienists' Association

Kathy Trilli, Texas Dental Hygienists' Association

REPRESENTATIVE	CONSTITUENT
Christina Anglis	Ohio Dental Hygienists' Association
Lori Aus	Oregon Dental Hygienists' Association
Becky Bezdek	Texas Dental Hygienists' Association
Susan B. Clifford	California Dental Hygienists' Association
Nancy P Cooper	New Mexico Dental Hygienists' Association
Connie Edstrom	American Dental Hygienists' Association
Marge Empey	American Dental Hygienists' Association
Crystal Fern	Nebraska Dental Hygienists' Association
Jane Forrest	New Jersey Dental Hygienists' Association
Cynthia Fretland	N. Dakota Dental Hygienists' Association
Dianne O. Genz	Wisconsin Dental Hygienists' Association
Barbara E. Gorbitz	Indiana Dental Hygienists' Association
Lucy Kate Jenkins	Kentucky Dental Hygienists' Association
Patricia M. Johnson	Canadian Dental Hygienists' Association
Myrna Kalman	California Dental Hygienists' Association
Darla Knudsen	Oregon Dental Hygienists' Association
Deborah J. Lutjen	Iowa Dental Hygienists' Association
Deborah Manne	Missouri Dental Hygienists' Association
Marsha Marden	Missouri Dental Hygienists' Association
Debi McFall	Colorado Dental Hygienists' Association
Beverly McDonald	Michigan Dental Hygienists' Association
Elaine Murphy	Missouri Dental Hygienists' Association
Mary Jo Nigg	Kansas Dental Hygienists' Association
Lorie Primosch	Oklahoma Dental Hygienists' Association
Patricia Crane Ramsay	American Dental Hygienists' Association
Robin Marie Rausch	Washington Dental Hygienists' Association
Janet K. Recore	Wisconsin Dental Hygienists' Association
Cynthia F. Rinaldi	W. Virginia Dental Hygienists' Assoc.
Kathleen Schlotthauer	Pennsylvania Dental Hygienists' Assoc.
Beth Stolar	New Jersey Dental Hygienists' Association
Kathy Trilli	Texas Dental Hygienists' Association
Carol Graham Turner	Virginia Dental Hygienists' Association
Cynthia R. Veach	Tennessee Dental Hygienists' Association
Mary Wann	Wisconsin Dental Hygienists' Association
Jan L. Warren	New Mexico Dental Hygienists' Association
Ann Rogers Wertz	Iowa Dental Hygienists' Association
Maria Whitaker	Ohio Dental Hygienists' Association
Janet Souder Wilson	Michigan Dental Hygienists' Association

REPRESENTATIVE	DENTAL HYGIENE PROGRAM
Mary Lou Abbott	Carroll College, MT
Denise Avrutik	Middlesex County College, NJ
Marilyn Beck	Marquette University, WI
Alice D Betz	Youngstown State University, OH
Margaret Biethman	Johnson County Community College, OH
Cecelia Black	UMDNJ, NY
Denise Bowen	Idaho State University, OD
Gunda M. Brakas	Bergen Community College, NJ
Susan L. Brockmann	Johnson County Community College, KS
Kathleen Brough	Medical College of Georgia, GA
Cindy Brown	University of Arkansas, AR
Sherry Burke	Delaware Technical Institute, DE
Elaine Buscemi	Middlesex County Community College, NJ
Teresa Butler	University of Louisville, KY
Renee Byczek	Johnson County Community College, OH
Regina Byrne	Community College of Philadelphia, PA
Carol Ann Cahnovsky	Lake Land College, IL
Cheryl Cameron	University of Washington
Jane D. Carr	University of Texas - Hlth Sci Ctr, TX
Laura W Cochran	University of Alabama, AL
Deborah J Cough	University of Texas - Dental Branch, TX
Gloria G. Crawford	Univeristy of Detroit, MI
Anita Cunningham	Hostos Community College, NY
Alice Curran	University of Kentucky/Ashland Community College, KY
Michele Darby	Old Dominion University
Audrey R David	Missouri Southern State College
Judith Davison	Westbrook College, ME
Lesa Kim Dean	SW Community College/University of Kentucky, KY
Sally Ann Deck	Lansing Community College
Karen Lee Demetre	Shoreline Community College, WA
Becky DeSpain	Baylor College of Dentistry, TX
Ann Dinius	Virgnia Commonwealth University, VA
Cheryl A. Dorfman	New Hampshire Technical Institute, NH
Susan Duley	C.S. Mott Community College, MI
Anna E. Edmundson	Wayne Community College, NC
Paul J Edwards	University of New Mexiso, NM
Dr. Mary Errica	Hostos Community College, NY
Dr. Martha Fales	University of Washington, WA
Lisa S. Fleming	University Alabama, AL
Karen Folsom	University of Texas - Hlth Sci Ctr, TX
Norma Francisco	University of California - San Francisco
Lynnette Lynn-Fraser	Sinclair Community College, OH
Judith M. Friedman	SUNY - Farmingdale, NY

Kathern R Friel	Delaware Technical Institute, DE
Cynthia M. Garvin	Eastern Washington University, WA
Mary Alice Gaston	University of Tennessee, TN
Nancy Geistfeld	Mankato State University, MN
Joan Gill	Lima Technical College, OH
Nancy Glick	Texas Women's University, TX
Sharon Golightly	Ft. Steilacoom Community College, WA
Katherine Graham	Clark College, WA
Donna B. Grant	Community College of Baltimore, MD
Karen Gross	University of Missouri/Kansas City, MO
JoAnn Gurenlian	Thomas Jefferson University, PA
Linda Hanlon	Forsyth College, MA
Carolyn Harbourt	Northampton County Area Community College, NJ
Salli E. Harris	East Washington University, WA
Carolyn Hartnett	New Hampshire Technical Institute, NH
Mary Ann Hashimi	Ferris State College, MI
Deborah Henry	University of Southern Indiana, IN
Sandra L. Hersperger	NCTI, WI
Martha Higgins	Chattanooga State Technical Community College, TN
Gwen Hlava	UNMC College of Dentistry, NE
Theresa L. Hollowell	Kalamazoo Valley Community College, MI
Marianne Holt	Harper College, IL
Diana E. Huntley	Wichita State University, KS
Anne Hutcherson	Virginia Western Community College, VA
Gloria Huxoll	Indiana University, IN
Judy Jaeger	University of Detroit, MI
Selena James	Hostos Community College, NY
Sue Janusz	Parkland College, IL
Catherine Jensen	Southern Illinois University, IL
Dr. Jeffrey Johnson	University of Louisville, KY
Pat Jones	West Liberty State College, WV
Sharon Kantor	Indiana University, IN
Barbara Komives	West Virginia University
Nancy Sisty LePeau	University of Iowa, IA
Joleen Lee	University of Maine, ME
Sandra K. Leggett	Des Moines Area Community College, IA
Sherry Lemon	Oregon Health Science University, OR
Joan Levenson	Union County College, NJ
Patsy Littlejohn	Chattanooga State Technical Community College, TN
Sueann Longenecker	Ohio State University, OH
Kathleen Mary Lukken	Weber State College, UT
Eva M. Lupovici	Fairleigh Dickinson University, NJ
Karen Maloney	Northwestern University, IL
Dolores M. Malvitz	University of Oklahoma, OK
Susan Marcus	Rose State College, OK

Laurie McKendry	University of Iowa, IA
Ann McCann	University of Detroit, MI
Ruby F. Meador	Western Kentucky University, KY
Robin Menschenfreund	Central Community College, NE
Kay Mescher	Council on Educational Services and Research
Cheryl Metzger	University of Maryland, MD
Kathleen S. Miller	Montgomery County Community College
Rosanne V. Mirakian	Temple University
Kathleen Morr	University of North Carolina
Barbara Nelson	Clark County Community College, NV
Kathy Newell	University of Minnesota, MN
Janie S. Noble	Wharton County Junior Collge, TX
Ailene Novack	Wm. Rainey Harper College
JoAnn Nyquist	Wayne County Community College
Evelyn Oldsen	Indiana University School of Dentistry
Mary E. Ostrye	West Virginia Institute of Technology, WV
Pamela Overman	University of Missouri at Kansas City,
Trudy Palmateer	Owens Technical College
Cathy Patterson	Lakeland Community College
Anna M. Pattison	University of Southern California, CA
Marian Patton	Tennessee State University, TN
Beth Pelton	University of Iowa, IA
Recie Pennell	Johnson County Community College, KS
Geraldine Perri	Hostos Community College, NY
Ruthann Peterson	Milwaukee Area Technical College, WI
Susan Peterson	Northern Arizona University, AZ
Gale Cross Poline	University of Colorado, CO
Barbara Purifoy	University of Detroit, MI
Sandra K. Rich	University of Southern California, CA
Linda Robinson	Lima Technical College, OH
Ellen J. Rogo	Fairleigh Dickinson University, NJ
Renee Rubertus	Missouri Southern State College, MO
Linda Rubinstein	University of Maryland, MD
Susan L. Sauer	Loyola University of Chicago, IL
Wanda Scott	Kalamazoo Valley Community College, MI
Joni Self	Loma Linda University, CA
Janice Selman	Wayne County Community College, MI
Christopher Simmons	Owens Technical College, OH
Jackie Singer	University of Maryland, MD
Linda Slattery	St. Louis Community College, MO
Marjorie Snow	Kalamazoo Valley Community College, MI
Donna Stach	University of Colorado, CO
Helen Stamas	Monroe Community College, NY
Virginia Stankiewicz	Prairie State College, IL
Pauline Steele	University of Michigan, MI
Fran Stoeckl	Weber State College, UT

Jill Stoltenberg	University of Minnesota, MN
Lynn E. Swartz	Madison Area Technical College, WI
Glenna Taylor	University of New Mexico, NM
Nancy Jean Thompson	University of Iowa, IA
Terri Tilliss	University of Colorado, CO
Pamela Tinder	Johnson County Community College, KS
Marley Tobian	Colorado Northwestern Cmty College, CO
Ellen Tobin	Univeristy of Iowa, IA
Frances R. Tompkins	Midlands Technical College, SC
Karen Lyn Trapnell	Fresno City College, CA
Dr. Kurt H. Truax	University of Arkansas, AR
Sarah A. Turner	Hawkeye Institute of Technology, IA
Darlyne A. Underhill	C.S. Mott Community College, MI
Maureen C. Vendemia	Youngstown State University, OH
Chris Wambach	Sheridan College, WY
Marjorie Watkins	Lakeland College, IL
Dr. Dona Wayman	Columbia University, NY
Karen Van Auken Wells	Loma Linda University, CA
Dr. Merle S. White	Parkland College, IL
Deborah Wilson	Luzerne County Community College, PA
Dorothy J. Wooton	University of Vermont, VT
Nanci Yokom	Indiana Univeristy, IN
Nancy Young	Indiana University, IN
Pamela Zarkowski	University of Detroit, MI
Barbara Zerone	Camden County College, NJ

DENTAL HYGIENE EDUCATION AND PRACTICE WORKSHOP III

CASE STUDY

STATE: TULIP

SOCIOLOGIC/DEMOGRAPHIC FACTORS

The total state population is 2,889,964. The population is mostly urban with 2,329,869 or 81 percent of the population located in urban areas. The largest urban city has a population of 1,352,070. The rest of the urban population lives in 6 smaller cities. In descending order, the population in these cities is: 276,872; 109,444; 81,129; 78,287; 62,297, and 56,854. The rural population is 560,095 or 19 percent of the total. Thirteen percent (74,899) of the rural populace live in places with a population between 1,000 and 2,000 persons. The major races are white (2,571,498), black (101,703) and American Indian (17,734).

Tulip also has a large Spanish population. The total number of Spanish origin individuals is 339,717 or 12 percent of the total population. About two-thirds of the Spanish origin population is Mexican. Most (85 percent) of the Spanish population is located in urban areas. Likewise, nearly 100 percent of the black and 70 percent of the Indian populations are located in urban areas. Tulip is a relatively young state with 75 percent of the population being under 44 years of age. Twenty percent of the population is aged 25-34 years old, with the median age being about 28 years old. The population has increased consistently for the past several decades. In-migration has played a major role in these increases. However, nationally the baby-boom population has reached an age of lesser mobility, so the increases may not continue to the same degree in the years ahead. The increase from 1950-1960 was 32 percent, from 1960-1970 was 26 percent and from 1970-1981 was 31 percent.

ECONOMIC VITALITY AND CONDITIONS:

Tulip is a vital state with a diverse economic base and has attracted younger people recently due to a reputation for career opportunities. The diverse economic base of the State has meant that the economy has stayed stable despite national downswings. The largest employer is the Service Industry (75 percent) which is due to Tulip serving as a regional center for: tourism, trade and distribution, medicine, government, and finance. Other important industries in Tulip include: manufacturing-14%, construction-7-8%, mining/energy-3%, agricultural-2%. Additionally, Tulip has an attractive climate and appealing recreational amenities. This in combination with job opportunities further attracts the younger segments of the population pursuing career advancement.

POLITICAL FACTORS

The House is composed of 48 Republicans and 17 Democrats. The Senate composition is 24 Republicans and 11 Democrats. The State is ruled by a Democratic governor. Being a largely Republican State, higher education is not well supported in the State. Funds to support higher education rank the 47th lowest of the 50 states. Legislatively, only a handful of people are committed to improving education in the State. Likewise, there is little support for social services and health issues, although the University of Tulip Medical School/Hospital does serve as a regional medical center.

HIGHER EDUCATION STRUCTURE AND GOVERNING BODIES

The demand for higher education is decreasing due to the aging of the baby-boom generation. As their children begin to age, there may be another upswing. This would occur in 10-15 years. On the whole, Tulip is not supportive of higher education. The quality of resources and facilities is, in general, adequate to poor; however, community colleges would fare better in this regard than would the colleges/universities due to different state funding mechanisms and broader support for vocationally focused institutions.

STRUCTURE OF HIGHER EDUCATION:

The State Board of Higher Education oversees the entire education process. Under recent legislation, they are presently evaluating all academic programs for duplication, etc. The universities fall under three coordinating boards: Board of Regents, Agriculture Board, and Board of State Universities. In addition, the two-year schools are governed by the State Board of Community Colleges.

There are 17 four-year colleges of which 10 are State funded and 7 are private. The two major State universities are: The University of Tulip (20,000 - main campus, 20,000 - satellite campuses) and Tulip State University with an enrollment of 18,500. There are 14 community colleges, all of which are State funded. There are two dental hygiene programs in community college settings with respective enrollments of 1,500 (300 residential) and 1,000 students. There are 3 dental hygiene programs:

1. The University of Tulip (UT) offers a Bachelor of Science in Dental Hygiene. Two years of undergraduate prerequisites precede 2 years at the Dental School. The Dental School is part of the Health Sciences Center in the largest urban area (enrollment - 2,000 students), however, the main University of Tulip campus is in another city.

2. Tulip Community College (TCC) is located about 120 miles from the largest city within the state and has a population of about 2,500. The program is in an isolated community with the nearest larger town being 90 miles away. This program offers an

associate degree, accepts students out of high school, and requires 2 years to complete.

3. Tulip Technical College (TTC) is located in a city of 109,444 about 90 miles south of the largest city in the state. This two-year program offers an associate degree and accepts students out of high school.

None of the programs receives any institutional endowments.

INSTITUTIONAL STRENGTHS AND WEAKNESSES

(1) University of Tulip (UT) Strengths: Location on Health Sciences Center Campus with strong basic science, dental science, dental hygiene faculty, and courses to draw from. Facilities (library, laboratories, classrooms, clinic, etc.)

Weaknesses - Questionable support in funding, campus offers limited support services for students (counseling, recreation, etc.). One of the few baccalaureate programs in a doctorate-emphasis setting, thus Baccalaureate programs are not viewed as a priority.

(2) Tulip Community College (TCC) Strengths - The ongoing financial support that the program receives and excellent supplemental programs, such as, a well developed counseling and placement and learning assistance center.

Weaknesses - Isolated location in State, a Summer program is always conditional year to year.

(3) Tulip Technical College (TTC) Strengths - The dedication and commitment of the institution to occupational training.

Weaknesses - The dental hygiene program does not have control over science courses. The originate in liberal arts and are considered by the dental hygiene faculty to be weak.

INSTITUTIONAL MISSIONS:

(1) UT - The basic objective of the University of Tulip is to carry out the mission of education, to create knowledge through research, and to put that knowledge at the service of the people. The Health Sciences Center seeks to improve the health of the residents of Tulip and the surrounding region. The Dental School seeks to educate DDS's and hygienists, provide continuing education, provide high quality services to individuals and groups, and to participate in research.

(2) TCC - The mission is based on the philosophy that learning is an on-going process, yet takes place during intensified time frames. The institution is committed to: academic transfer programs, occupational education, community services and education, support services, and specialized industrial training.

(3) TTC - The mission is pre-employment training for those preparing to enter an occupation and retraining or upgrading for occupational advancement.

POLITICAL FACTORS WITHIN AND AMONG INSTITUTIONS:

Over the past year, the three programs have worked together in a number of different areas. An EFDA grant supported the development of a strong periodontal anesthesia curriculum in all three programs. Combined resources have supported recruitment of students into dental hygiene and the three programs. Educational workshops for faculty were funded by the regional office. Recently, a formal meeting for all the educators was held. In addition, all program directors worked together through informal mechanisms. To date, the schools have operated independently and seem to draw from a differing student applicant pool.

PERCEPTIONS OF DIRECTORS CONCERNING INTERACTION AMONG INSTITUTIONS:

(1) TCC - Question the need for three dental hygiene programs in the state. They feel that one AA program and one BS program are adequate for Tulip.

(2) TTC - Feel that the political influence of the Dental School affects them and not always positively. For instance -- due to political pressure, the Dental School has had to go on record stating that the school does not support the lack of general supervision in private practice. TTC feels that this could hamper legislation and advancement of dental hygiene in Tulip.

(3) UT - The three schools operate amicably and TU does not really identify important conflicts of interest. TU attempts to counsel all interested individuals and applicants as to the most appropriate setting for their dental hygiene education, and has steered students to the other programs.

(The Long-Range Planning Committee of the Tulip DHA (TDHA) has identified, as a priority, the availability of transfer of credits among institutions so that 2-year hygienists can receive Baccalaureate degrees. The TDHA has a policy stating that the Baccalaureate degree should be entry level for hygienists. Additionally, the University of Tulip Dental Hygiene Department is planning/proposing a Post-Certificate Program in Dental Hygiene.)

FISCAL CONDITIONS:

The sources of funding are as follows:

(1) UT - The Joint Budget Committee of the State Legislature determines budget for the Health Sciences Center and School

Dentistry funding is a line item based on the number of students.

(2) TCC - Clinical fees - 1.7%, student fees - 5%, tuition - 25%, state support - 10%, local support - 58.3% (this comes largely from a city tax and oil tax).

(3) TTC - State vocational dollars - 90%, Federal vocational dollars - 10%.

FISCAL STABILITY AND STRENGTH:

(1) UT - Strength - The Dental School Dental Hygiene Program is a line item in the State budget; therefore, the University of Tulip could not unilaterally decide to eliminate the program.

Weaknesses - The Dental Hygiene Department is allocated resources just as are all other departments in the Dental School. However, the Hygiene Department is also responsible for full administration, and this is not taken into account during resource allocation of a program.

(2) TCC - Strong fiscally, although this depends somewhat on the local economy since funding is largely based on oil taxes.

(3) TTC - Strong fiscally. The clinic is self-supporting and even supports some staffing positions.

FISCAL CLIMATE:

(1) UT - The fiscal climate appears to be healthy on the surface, but an undercurrent always exists suggesting that "tomorrow things could change."

(2) TCC - Health fiscal climate. Last year received $236,000 to upgrade the clinic. Anytime funds are needed, they are requested and usually granted.

(3) TTC - Healthy fiscal climate. Since funding is primarily State dollars, special levys are not really a consideration.

BUDGET CONSTRAINTS

(1) UT - There is a formula by which departments are allocated resources based on curricular teaching hours, etc. This funding is adequate, although not generous.

(2) TCC - The Dental Hygiene Department is included in all aspects of budget decisions. The budget is generous.

(3) TTC - Same as above.

SPECIAL FISCAL ADVANTAGES/DISADVANTAGES:

(1) UT - Advantage - Dental hygiene faculty can participate in an intramural practice or extramural -- one day a week. Intramural income generated can be used toward travel, association dues, etc.

Disadvantage - The clinic must generate "X" number of dollars as mandated by the State, which is then returned to the State.

(2) TCC - Once the budget has been approved, the department decides exactly how to spend "X" number of dollars. The only area of instability is that it is decided on a yearly basis whether a Summer term will be held. Thus, faculty are uncertain about a 9-month or 12-month contract.

(3) TTC - An advantage is that clinic income supports the clinic and that Federal vocational dollars are available for support over and above what the State allows.

PROFESSIONAL COMMUNITY

Alumni Groups

(1) UT - There is a formally established alumni group which meets on an annual basis. The group only influences the program to the degree that their viewpoints are solicited. Alumni serve on the Admissions Committee.

(2) TCC - No formal alumni group. The Student American Dental Hygienists' Association sponsors an annual alumni brunch at the Midwinter Dental Meeting.

(3) TTC - No formal alumni group exists. However, alumni are utilized on search/screen committees and advisory committees.

EFFECTS OF LOCAL DENTAL/DENTAL HYGIENE GROUPS:

In general, the Tulip Dental Hygiene Society has been very supportive of students. Awards and scholarships are made available to encourage students and to promote association membership. Students are represented in the TDHA House of Delegates, and State officers visit all three schools to support students.

The Tulip Dental Association is, in general, supportive of dental hygiene. However, there have been some recent differences of opinion legislatively relative to dental hygiene practice. Tulip has traditionally had a liberal dental practice act, but the pendulum seems to be swinging the other way, recently. Dental and dental hygiene factions somewhat differ concerning these legislative issues.

Tulip has 2 dental hygienists on the State Board of Dentistry and dental hygienists have been very politically active in the State, which has helped to sensitize the dentists in the area of the capabilities and professionalism of dental hygienists.

The School of Dentistry has had to fight long and hard battles for survival. The School has a fine reputation for producing high quality dentists and hygienists. However, there are certain political/legislative factions who are seeking to close the School due to what they perceive as an oversupply of dentists in the State. The School has to be particularly careful to maintain a good public image with the local dentists.

This, of course, has an impact on the Dental Hygiene Program and its faculty. Hygiene faculty must be careful to remain non-commital concerning controversial legislation.

DENTAL HYGIENE EDUCATION AND PRACTICE WORKSHOP

CASE STUDY

State: Rose

SOCIOLOGIC/DEMOGRAPHIC FACTORS

Information gathered from the 1980 census and the Rose Annual Demographic Profile: 1984, addresses the population of Rose and the distribution of the population. The census is the primary source of social, demographic and economic statistics for the State. Many of these characteristics are updated when the next census is completed. The Rose Annual Demographic Profile presents current estimates of statistics for population, households and families.

1. The population has increased 2% from 1980 to 1984 for a total of 7,515,000. This increase in population is a turnaround from the "no growth" years of 1975-1980 in the State. The Rose population grew only 2.7% for the entire decade 1970-80. Population projections for 1985-2000 indicate a 4.3% increase by the year 2000.

2. The population in 1980 between the ages 18-64 when divided by race indicates that there are 78% white, 12% black and 4% others which includes American Indians, Eskimo, Japanese, Chinese, Filipino and Korean. Six percent of this population is of Spanish origin which includes Mexican, Puerto Rican and Cuban. Comparing the largest Spanish speaking population for ages 18-64 with Rose labor market areas shows a high correllation between the proximity of this population concentration and the largest metropolitan area.

3. There are two Consolidated Metropolitan Statistical Areas (CMSA) in Rose. A CMSA is a larger population nucleus which has a high degree of economic and social integration and over one million population. Primary Metropolitan Statistical Areas (PMSA) all within CMSA's. These are the most populated cities within CMSA. There are five PSMA's in the CMSA located in northern Rose and two PSMA's located in southern Rose.

4. The number of households has increased at the same rate as the population in 1984. The average number of persons/households has decreased from 2.84% to 2.77%. The number of families and married couple families have both decreased by 2%. Non-family households have increased by 19% and female householder families have increased 4 1/2%. The unemployment rate was 6.2% in 1984. Median family income decreased 4% to $30,084 from 1979 to 1983. Median household income decreased 7% to 25,299. Family poverty increased from 7.6% in 1979 to 8.5% in 1983.

ECONOMIC VITALITY/CONDITIONS

According to the Rose Annual Demographic Profile: 1984, employment in Rose was at its highest level in the State's history. 3.6 million persons in Rose had jobs. The unemployment rate was 6.2%, the lowest since 1973. From 1980 to 1984, more than 250,000 additional persons have been employed in the State's ecomony. This is an increase of 7.7%

1. In 1983, the personal income for counties and metropolitan areas indicated the highest level in the CMSA in northern Rose which was $254,681,000 and in the CMSA in southern Rose, $73,032,000. The mean for the state of Rose was $104,548,000.

2. Per capita personal income for the state of Rose was $14,000 in 1983; $14,605 in the CMSA in northern Rose and $12,723 in CMSA in southern Rose.

3. In 1983, 53% of the population worked full time; 13% part time and 34% were non-workers. Sixty-seven percent were men who worked fulltime while 33% were women who worked full time. Part-time workers were 64% women and 36% men.

4. Rose's economic strength has involved heavy industry and mass production concentrated in the northern part of the state while agriculture has dominated the southern half of the state. There has been phenomenal growth of the service industries. Service business provide 53% of the payroll jobs of the nonfarm workforce. As a result of rising affluence, more leisure and the growing complexity of products that require servicing, Rose is becoming a service economy. Service industries are quite varied and include the government, private non-profit and business sectors.

5. Rose's ecomony should continue to grow at an average rate until the year 2000. Unemployment should continue to slowly decrease. Recessions have occurred approximately every five years in the United States and may continue to occur until the end of the 20th century. The United State economy will similarly affect Rose's economy.

POLITICAL FACTORS

The priorities of the State government in regard to higher education and health care are difficult to predict. Rose is ending a two year legislative session on January 14, 1986. Republican Governor Thomas Kean has been elected to another four year term. He will be working with an Assembly controlled by Republicans and a Senate controlled by Democrats. Previously both houses were controlled by the democrats.

It seems that the Department of Health received approximately two percent of the State's annual budget. Out of this allocation, the Dental Division receives no money from the State. The entire Division's appropriations came from Federal Block Grants. These grants amount to $700,000 for 1985.

Impressions of the executive branch and the legislature toward dental health are interesting. During the campaign many candidates expressed support of the many dental programs being proposed by the state health department. The fluoride mouth rinse program is one that is being expanded. Now that the campaign is over, it has not been positive to obtain the legislator's approval "in writing".

In addition, the Gramm-Rudman plan to balance the federal budget may impose politically painful spending cuts and tax increases. There are risks that sharp cuts in the deficit could depress the economy. The rate of economic growth, the size of the trade deficit, the level of employment and the distribution of income will be profoundly affected depending on how this legislation is actually implemented.

6. It's realistic to assume that such a huge cut in the deficit would be accompanied by significant monetary easing and a sharper decline in the dollar, thus declining interest rates would spur investment and a lower dollar would boost United States exports helping offset the slowdown in spending.

HIGHER EDUCATION STRUCTURE AND GOVERNING BODIES

Employment projections from 1982-1990 indicate a .43% increase in employment of dentists and .22% increase in employment of hygienists while there will be a 2.88% increase for all health workers. The average annual job openings from 1982-90 show a .22% increase for dentists and .12% increase for hygienists and 3.57% for all health workers.

GOVERNING BODIES

The board of Higher Education is the policy making body, responsible for licensure of all sectors of higher education. The members of the Board are one representative from state colleges, community colleges and independent colleges/universities. Seven public members are appointed by the Governor. The Department of Higher Education acts as staff to the Board and implements the policy.

The Board of Higher Education has final approval of all new programs, faculty and administrative structure. Last year, the Board approved nine new degree programs: four leading to AA or AS degrees, four baccalaurates, and one post-first professional master's degree in Theology. The Chancellor states that there has been a downward trend in the number of new degree programs due to the leveling off of enrollments and a careful marshalling of institutional resources.

In 1983-84 the Department of Higher Education made significant efforts to provide increased opportunities for individuals trained at the pre-baccalaureate level to further their professional education. One approach was the LPN Articulation Incentive Program. This program awards capitation grants to two and three year professional nursing (RN) programs that either provide maximum transferability of credits from previous nursing education programs or increased enrollment of LPN's. Capitation support went to seven institutions.

A Joint Articulation Committee of Academic Vice-Presidents from State and Community Colleges has been working to ensure ease of transition from Community Colleges to State Colleges. Rose's Board of Higher Education full-faith and credit policy governs the transfer of credits from Community Colleges to the State Colleges. Studies are being planned to determine course equivalencies. New degree requirements at the AA and AS degree level are expected to more easily fulfill the senior institutions' general education requirements.

There are two dental hygiene programs affiliated with dental schools in Northern Rose and four dental hygiene programs in community college settings located in central and southern Rose.

White University is a private institution with a College of Dentistry in which Dental Hygiene is a Division. Their mission states that White University is Rose's quality, comprehensive, private University committed to excellence. Research is demanded for tenure of faculty. The hygiene program is a baccalaureate degree program.

Strengths of the dental hygiene program include: University settings; on-campus housing; degrees from A.S. to doctoral level; committed, energetic hygiene faculty; and willingness to change and grow.

Weaknesses include: lack of innovative ideas due to bureaucracy; lack of transferability of hygiene courses; lack of respect for expertise in dental school; financial support law for faculty lines; and dental school's administration holds hygiene as a low priority.

Rose Health University is a comprehensive health-related state institution. It does not have authority to grant undergraduate degrees. The two year dental hygiene program is based in a community college which awards an Associate in Science Degree. Clinical and professional courses are obtained through the dental school at Rose Health University.

Strengths include: curriculum designed to develop a comprehensive professional; wide range of clinic patients with law teacher/student ratios; numerous out-reach activities in the community segment of the curriculum; expanded functions is provided as well as working with dental students - experiences in all specialty clinics; faculty present continuing education courses and participate in providing patient care services; and commitment and expertise of faculty in curriculum development and evaluation.

Weaknesses identified: location of dental school in large city; and no alumnae group.

The four community colleges receive funding from the state and county as well as the amount generated from tuition and student fees.

Strengths include: high employment rate of graduates; faculty/student ratios; all faculty have master's degrees; adequate travel funds for professional development are available; selective admissions, articulation agreements with four year institutions; computerization of all patient data; expanded functions; consistent high performance on board examinations; extensive community affiliations; and dental hygiene viewed as quality program by administration.

Weaknesses include: law priority for student support facilities; lack of racial and ethnic combination in staff and faculty; enrollment decline; and hiring freezes.

FISCAL CONDITIONS

The State's commitment to higher education is reflected in the annual appropriations. The percentage gains in fiscal year 1984-85 were the greatest since fiscal year 1978. Higher education in Rose is a 1.7 billion dollar enterprise. Major sources of income are governmental entities and students. Major cost centers are the instruction and research activities along with their support services and plant maintenance. In the public institutions, state funds account for 52% in the State Colleges and 23% in the Community colleges.

Fiscal year 1985-86 appropriations for higher education are $847,673,000. This ranks Rose tenth in the nation for appropriations to higher education.

Appended to this case study is Table A titled "College Health Indicators" which identifies general library information for the major institutions of higher education in the state.

The four community college programs receive county and state support as well as the amount generated by tuition and student fees. All four programs are fiscally stable and none of them have been identified for budget cuts. Cost effectiveness of the programs is mainly due to differential funding. Fees generated from continuing education are transferred back to departments as income.

White University has received state assistance for the dental school since 1979. Budgets for programs remain according to University plans for incremental increases. The equipment budget is petitioned at the beginning of the year. Learning resources and travel are also petitioned. If cuts occur, they are for equipment or freezes on open staff/faculty hiring.

The dental hygiene program is stable with the clinic earning income. Student enrollment has increased to compensate for the attrition in the sophomore class. Continuing education yields 2,000 yearly while annual alumni gifts yield 1500.

Rose Health University receives state funding. The dental hygiene program funding is as stable as any program in the state. It has not been identified for budget cuts. Budgets are not increasing at an equal rate with increasing costs. This is a University constraint which affects all programs. As a joint program, however, funding is available from both institutions for various projects.

PROFESSIONAL COMMUNITY

The White University alumni need to be revitalized. An association is reforming. Surveys keep the program director abreast of the alumni employment placement and higher education. Their priorities in the community are continuing education offered at reasonable rates and personal economic advancement. The director has little knowledge at this time of their salary ranges on employment settings.

The state university and three of the community college programs have no alumni associations. One community college has a potentially strong association with as many as 70 members attending annual meetings.

This past year the Rose Dental Association sponsored legislation for general supervision. The Rose Dental Hygienists´ Association requested that the Rose State Board of Dentistry review the regulations governing dental hygiene and revise them to reflet "general" supervision in all practice settings not just institutions. General supervision in institutions has been in effect for the last 6 years. The bill passed the Assembly (all members were up for election this year) but was not placed on the Senate Committee´s agenda before the end of the session and therefore died.

Because of their political action committee contributions, the RDA has a great deal of political clout. The final report for the 1985 legislative campaigns have not become public. However, in 1983, the RDA PAC contributed $134,400 to legislative campaigns. It is safe to assume their contributions were even greater in the latest campaign. They have consistently contributed large amounts, about 10,000 to the leadership in each house. They also give sizeable contributions to the members of committees likely to consider their legislation.

RDHA has influence in the legislature based on their reputation of providing accurate information to legislators on issues in areas in which they have expertise. Their reputation and influence are also enhanced by their comments on issues in the public interest such as the disallowing of the sale of "junk" food in public schools and their support of legislation requiring the use of lead aprons when dental radiographs are taken.

The strengths of the RDHA are their honesty, willingness to take risks, dedication of officers and active members, desire to work on a factual level, rallying to overcome potential problems, and good support personnel - (lobbyist and attorney who are both well respected in the fields.)

RDHA is supportive of the dental hygiene education system. There is concern, however, with the bachelor's entry level for the profession and the addition of too many duties. Overall, the RDHA is supportive of the decisions of their membership.

The two schools of dentistry have good political clout with the state legislature on the basis of their funding. White University has received state assistance since 1979. The White dental hygiene program does not enjoy high priority. Rose State's program has a dual affiliation with the community college.

COLLEGE HEALTH INDICATORS: Community Colleges (17)
State Universities and Colleges (13)
Independent Universities and Colleges (16)

TABLE A

GENERAL LIBRARY INFORMATION

LIBRARY INFORMATION BY CATEGORY	17 COMMUNITY COLLEGES FALL 1984/ Mean/Med	84/79 % Change	13 STATE UNIV. & COLL Fall 1984/ Mean/Med	84/79 % Change	16 INDEP. UNIV. & COLLEGES Fall 1984/ Mean/Med	84/79 % Chang
Periodical Subscriptions		-20.3		- 8.7		- 5
Titles of Bookstock		6		11.5		16.5
Microforms		417.3		5402.9		2004.5
AV Materials		8.9		- .02		144
Full Time Equiv. Staff		-15.7		110.4		21.7
Weekly Reference Transaction		92.6		77.2		9.5
Hours/Open/Week		- .5		6.8		- 2.3
Salaries/Wages of Staff		51.5		23		42.1
Operating Expenditures	$14,476,186	9.2		40.7		48.5
Total Expenditures	(Mean)	31.7	$1,792,914 (Mean)	13.5	$1,097,717 (Mean)	41.8
	417,961 (Median)		1,344,998 (Median)		245,857 (Median)	

DENTAL HYGIENE EDUCATION AND PRACTICE WORKSHOP III

CASE STUDY

STATE: CARNATION

SOCIOLOGIC/DEMOGRAPHIC FACTORS

The state of Carnation has approximately four and one-half million residents. As compared with other states in the Union, Carnation is physically small and has an uneven population distribution. This is due in part to the state's geographic extremes. The western region of the state is mountainous while the eastern portion is peninsular and bordered by the Atlantic Ocean. The state's eastern, western and southern portions are primarily rural. Intermittent small towns populate the rural regions with cities of substantial size located in western, eastern and central areas. An extensive urban sprawl spreads north and southwest. The largest urban area has a population of approximately two million.

Racially, the state of Carnation is primarily caucasian although an extremely high percentage of blacks (75%) reside in the largest urban area and in the smaller towns populating the Eastern Shore. The major concentrations of ethnic groups are found in the city's urban areas. The population in Carnation has shifted over the last decade with a migration of urban residents to suburban areas; the southern, eastern and western portions of the state have experienced a decline in population growth while the central and northern regions have experienced a population boom.

ECONOMIC VITALITY/CONDITION

The geographic areas of the state experiencing population declines also are victims of economic depression. The western area of the state, once supported by coal, railroad and other heavy industry is severely depressed. Southern Carnation and the eastern shore are subject to the whims of nature as agricultural activity is a primary source of income. The eastern shore's key lifeline, however, is the bay area. The fishing industry is one of Carnation's key sources of revenue. Over the past five years, major renovation in the largest urban area has produced a boom in tourism. Heavy industry is depressed and many lay-offs have resulted. However, the recent influx of high technology bodes well for increased economic vitality. The corridor between the two largest cities in the state is economically vital and contains the highest per-capita income county in the United States.

POLITICAL FACTORS

The state legislature and executive branch have been and continue to be supportive of higher education and health matters. Due to current economic conditions, state institutions of higher learning are experiencing some belt-tightening but not to a degree significant from other states and funding is adequate. Monies are most often designated for improvement of preexisting structures and programs rather than for enlargement. Privately endowed institutions are seldom the focal point of state legislative efforts. Health care and higher education are often intertwined in Carnation as Prudential University (PU) and the University of Carnation (UC) boast the most sophisticated medical complexes in the state.

Health care has been a top priority in the state of Carnation with its primary focus being cost containment. Consolidation of hospital facilities is a prevailing theme although UC's and PU's multi-complex health institutions receive adequate funding. The physical environment of University of Carnation has received a face-lifting while sophisticated treatment units have been "beefed-up". The Chancellor of the University of Carnation has drawn considerable monies and attention to the downtown professional campuses and health care delivery systems. State Medicaid benefits are minimal with increased legislative focus on private third party payment mechanisms and alternate delivery settings and providers (e.g., HMO's, PPO's). Nurse midwives and nurse practitioners receive third party payment.

The occupational areas offering the most hiring opportunities in Carnation are accounting, banking, engineering, computers, and health services. Employment projections in these categories appear promising and continued growth in the state's health and high technology arenas support this fact. Student demand remains constant and adequate to fill desired class sizes although the caliber of students attending state institutions is declining.

HIGHER EDUCATION

Carnation has twenty two year colleges (fifteen of which are classified as community colleges and offer associate and certificate degrees) and thirty-two four year colleges and universities. Twelve of the four year institutions are state funded and seven of these are considered universities. The University of California has four branch campuses with all health professional schools located in the largest urban area. The majority of institutions or higher learning have high quality resources, physical plants, libraries and equipment.

The Carnation State Board of Higher Education is an active body that works closely with the State legislature and liaisons with the Carnation State Department of Employment and Training. Carnation permits course exchanges with other states' institutions of higher learning and efforts are continually made to broaden and ease the student's quest for higher education. Financial aid programs, career counseling and job placement are major emphases of the higher education governing bodies. A broad range of degrees and academic programs are offered by the many institutions.

Private institutions in Carnation are more steeped in tradition than are public institutions and tend to attract a more highly competitive student. The University of Carnation is highly respected but is often over-shadowed by the worldwide reputation of the John Hopkins University. Carnation's institutions of higher learning promulgate conservative values for the most part. Because the University of Carnation Dental School was one of the first dental school in the United States, it boasts a strong tradition.

Three dental hygiene programs exist in Carnation, two in community college settings (associate degrees) and one at Carnation (BS and MS degrees in dental hygiene). The endowments for these programs are primarily through the state. Only one dental school exists in Carnation. The community college dental hygiene programs cater primarily to the geographic locale they serve. Their primary focus is vocational education and neither of the two programs has immediate access to a dental school. One program, located in western Carnation helps geographically balance the output of dental hygiene providers as the two other programs are located in the largest urban area. The University of Carnation program, along with its four year program offers a graduate degree and a degree completion track for associate degree dental hygienists. All three institutions strive to educate and graduate highly competent providers. The Carnation dental hygiene program has a more global concept of the dental hygiene professional than do the associate programs. Friction based on degree status exists between community college and university educated graduates.

Because the UC dental hygiene program is a department of the Dental School, its administration and faculty must strive to maintain equality with other dental school departments. To date, efforts have been successful and dental hygiene is viewed as a critical component of comprehensive patient care. Dialogue with the dental school departments facilitates student valuing of total patient care.

Both community colleges programs permit entry upon high school graduation or its equivalence. The bachelors program at UC requires prerequisite college courses and all students have had at least two years of college upon entry.

Politically, the community college programs interface with other in-house allied health programs. They are well-respected within their institutional settings, and receive support from their institutions' governing bodies. Little exchange occurs with outside academic institutions. The UC program articulates with the other dental school departments and delivery systems, although minimal interaction occurs with the other campus professional schools. The UC campus is currently involved in a "campus for the professions marketing campaign" which may have a spillover effect on the dental hygiene program.

When assessing the strengths and weaknesses of existing institutions there were many commonalities.

Identified strengths were:

Diverse faculty with broad expertise
Strong Financial Aid Department
Manageable class size
Reasonable faculty course loads
Library resource support
Prestige associated with well known institutions

Common weaknesses included:

Declining applicant pool
Decreased funding for faculty development
Need for support staff
Need for facility funding
Need for more FTE positions
Need to enhance alumni support and involvement
More competitive faculty salaries

FISCAL CONDITIONS

Sources of funding for all three dental hygiene programs are primarily state and/or community derived. Patient revenues, tuitions and private donations through alumni and giving campaigns also provide support. The programs remain financially stable and are not identified for cuts. The decrease in dental school enrollments through the withdrawal of capitation has not affected the UC dental hygiene program. Legislative cuts have affected faculty salaries and travel funds but not program functioning.

PROFESSIONAL COMMUNITY

The dental hygiene alumni groups are weak and disorganized. The dental association has a powerful lobby and has successfully defeated numerous dental hygiene efforts at dental practice act liberalization. The dental association makes large monetary contributions to political campaigns. Attitudes toward dental hygiene practice and education are extremely conservative; the younger dentists are a more liberal group but they are controlled by an influential "Old Guard".

The Dental Hygiene Association has a very strong leadership and is successfully organizing state efforts. The Legislative Committee is extremely active and grassroots activity is effective; however, monetary support is minimal. Political visibility is increasing in the state capital, a lobbyist has been hired and the PAC is building a solid base. Prevailing attitudes toward dental hygiene practice and education are realistically liberal.

The School of Dentistry is highly respected in the state and the Dean is supportive of dental hygiene. The school's political power is well-entrenched and valued by state legislators. Because the dental school relies heavily on alumni endowments, the administration must remain sensitive to the desires of dental association members. Active lobbying on behalf of dental hygiene is, therefore, a "touchy" subject. The school administration supports dental hygiene education and professional growth.

FUTURE OF DENTAL HYGIENE EDUCATION AND PRACTICE WORKSHOP III

CASE STUDY

STATE: DAISY

SOCIOLOGIC/DEMOGRAPHIC FACTORS

The most easily identifiable social trend in the state of Daisy is the rapid change in its demographic landscape. Even more than the nation at large, one of the most populous states in the United States is becoming older and more ethnically diverse. The median age of Daisians in 1980 was 29.9 years, but by the year 2000 it is expected to grow to 35.8 -- an almost six year increase in average age by 2000. In 1980, 10.2 percent of Daisy's population was over 64 years of age, but by 2000, that percentage is expected to climb to 12.3. The number of senior citizens is expected to grow by 1.4 million people, which is likely to form about 19.0 percent of the state's total population growth. A few years into the twenty-first century, the elderly will rapidly become a greater proportion of the population as the baby-boom generation of the 1940s reaches retirement age. The demands that the elderly increasingly will place on public services such as Social Security and Medicare will be substantial and represent one of the principle reasons for so much current concern over the funding adequacy of public health and retirement systems.

Even more dramatic is the expected growth in Daisy's Hispanic, Black and Asian populations. Hispanic and non-white ethnic minorities currently constitute 33.4 percent of the State's population, but by 2000, they will comprise between 41.8 and 45.2 percent. By 2010, projections indicate one half of the state's population will be minorities. Overall, by the year 2000, Daisy's already diverse population is expected to include between 3.2 and 4.4 million more Hispanics, 1.5 to 1.6 million more Asians, and 500,000 to 600,000 Blacks.

The growth of Daisy's ethnic diversity may produce increased demands for ethnically and culturally specialized programs, and could produce changes in college admissions policies, remedial programs, financial aid opportunities, and academic program requirements to ensure that higher education remains an avenue to success for disadvantaged minorities.

Changes in women's roles have already had widespread effects on institutional and departmental enrollments. Dramatic shifts occurred between 1976-1977 and 1980-81 in the types of degrees that women earned from Daisy colleges and universities -- at the bachelor's level, a jump of 195.5 percent in engineering, 159.1 percent in computer science, 120.2 percent in business and management, 69.8 percent in communications, and even 43.1 percent in agriculture. Conversely, their number declined in education and dropped or remained stable in all other academic disciplines.

Increased employment opportunities for women throughout the job market are likely to continue or increase these disciplinary choices in the future.

ECONOMIC VITALITY/CONDITIONS

Daisy's economic strength has rested principally on agriculture, heavy industry, and mass production, but the trends now are toward technologically oriented service industries, a change which will make its economic vitality over the next 15 years more dependent on mentality than on muscle -- less on the quantity of physical objects produced than on their efficiency, utility and ingenuity.

The nation's economy should continue to grow at an average rate of 3 percent to 4 percent of the GNP, per year, throughout the remainder of this century. At the same time, unemployment should decrease from our present 7.3 percent to about 6 percent by 1995. However, growth will not be steady. There have been recessions approximately every five years in the past thirty-five years, and if this trend continues, at least two additional recessions will occur before the end of the 20th century. Daisy's economy, in the next several years, will tend to mirror that of the nation's.

The state of the nation's economy and thus Daisy's is mirrored in the financial success of dental practices, and the subsequent demand for services. Linked closely with that fact is the demand for employment of dental hygienists. Employment trends and opportunities for dental hygienists have demonstrated a reflection of the state of the economy in Daisy.

POLITICAL FACTORS

Presently, the State House of Representatives is composed of 67 Democrats and 51 Republicans. The Senate composition is 31 Democrats and 28 Republicans. The governor is a Republican. Over the past five years the governing bodies have generally acted conservatively in terms of budget allocations to education (particularly higher education) and health and social services. This conservative trend has not been reversed even with increased democratic influence in the House and Senate. For fiscal year 1985-86 the total budget allocated to education was $4.7 billion; of which $1.269 billion was earmarked for higher education. Of that $1,269 billion, 66.3 % was appropriated for public four-year colleges and universities and 14.7% for public community colleges (the remainder is appropriated for scholarships, grants and other programs.)

HIGHER EDUCATION AND GOVERNING BODIES/FISCAL CONDITIONS

The State Board of Higher Education acts as a coordinating board for all higher education in the state. In comparison to other state coordinating boards, the DBHE is considered strong in that it has the authority to review and approve new programs, new institutions, new capital expenditures and make recommendations to the State Legislature regarding budget expenditures for all of the state public institutions and for those private institutions established after 1961.

There are thirteen programs offering courses in dental hygiene in Daisy; in two private universities, one in the University of Daisy system and ten in community college settings. Other than the tuition and fees charged to students there are more commonalities than differences among the institutions providing dental hygiene education. All require prerequisite course work prior to entering a program; the range of required units varies from institution to institution. All programs meet or exceed the American Dental Association's Standards and Guidelines for an accredited dental hygiene program.

The mission of the institutions vary depending upon the setting. The mission of the university based programs is "to create knowledge through research, servicing people in realization of their potential and dissemination of knowledge to the community at large."

The mission of the community college system is based on the philosophy that education is a life-long process. The institutions are committed to excellence in teaching, community service and are student oriented in terms of accessibility (financial and geographic), educational levels, and support services. Moreover, the institutions support career programs, general lower division education for transfer to senior institutions and continuing education for self improvement.

The private institutions have similar missions in that they support "the gathering and dissemination of knowledge and information through research, excellence in teaching community service for both private and public sectors."

When assessing the strengths and weaknesses of existing institutions there were many commonalities.

Identified strengths were:
- diverse faculty with broad expertise
- strong financial aid department
- manageable class size
- reasonable faculty course loads
- library resource support
- prestige associated with well known institutions

Common weaknesses included:
- declining applicant pool
- decreased funding for faculty development
- need for support staff
- need for facility funding
- need for more FTE positions

need to enhance alumni support and involvement
more competitive faculty salaries

The following list represents a summary and evaluation of trends in Daisy Education which will exert a profound effect on dental hygiene education.

- Colleges are using the strategic plan instead of the traditional accreditation reports as a planning tool.

- Demographics show a marked increase in the more mature (older) student.

- Mature students are best served by adapting instruction to make it convenient for adults. (Miami-Dade model)

- Career retraining is offered for the purposes of gaining new skills and staying current with "state of the art" applications.

- College enrollments may change depending upon the outcome of legislation controlling adult education programs and the higher education master plan.

- An "academic floor" (academic baseline) may be mandated that would force students to make progress through the remedial education course sequence.

- Increased cooperation with industries, agencies, and community groups, is necessary to assess educational needs. Skill validation and "Educational Warranties" may be mandated.

- Tracking systems are being developed to evaluate the progress of former students that have moved into higher education, industry or who have made career changes.

- There were 100,000 dropouts from the Class of 1983 in Daisy high schools. This problem cuts across ethnic lines and appears to be worsening.

- Only 40 of 1,700 occupations are expected to have job growth over the next 15 years. Of those 40 occupations, only 25 percent require a college degree, with some of the largest growth areas in building custodians, cashiers, secretaries, teachers and nurses. Dental hygiene is not included in the list.

- The middle class of American workers is being eliminated as the work force is being split in two. On one side are the highly educated, highly paid, creative professionals and on the other side are those who carry out repetitive, fragmented tasks under rigid supervision and control.

- There is little doubt that the Legislature and Governor, acting upon recommendations of the Master Plan Review Commission and the Joint Legislative Committee, will adopt some major policy changes in the areas of mision, governance, and finance for Daisy's Community Colleges. Any long range plan adopted by a community college/district must take into account changes evolving out of the Master Plan review process.

- Statewide governance of the community colleges will increase, setting state priorities and some standards, and limiting, but not eliminating, local board authority and local district flexibility.

- State funding will probably be stabilized and may be increased to support priorities designated at the state level. Lower priority areas may lose state funding or be asked to rely more on local revenue or student fees. Student fees represent a dramatic departure from a system that was once "tuition free."

- The ADA (average daily attendance) funding formula, presently used, is likely to be replaced with a more complete formula based upon a combination of enrollment and types of services provided by a district. The FTE (full time equivalent) to student enrollment targets dental hygiene programs as high cost to districts - offering dental hygiene programs.

- Funding for Daisy's community colleges has decreased from 1977 through 1985. Legislated action has provided relief to property tax payers. Property tax provided a funding base to Community College districts. Capital outlay for new and replacement equipment, support services and library collections, et al, have suffered remarkably and have affected the quality of instruction at most institutions. Due to the high cost of dental hygiene education, some programs have been identified for elimination.

- This trend, has at least, momentarily, reversed for the 1985-86 fiscal year, when funding was increased. The outcome of the State lottery and distribution of revenues from that source may provide relief.

- Institutions are examining methods of marketing of programs and services to target populations - a concept which has long been anathema in education.

- Institutions are working in concert with the local business and professional communities to establish foundations which are supportive of programs.

PROFESSIONAL COMMUNITY

-Dental hygiene alumni organizations have not been clearly established in community college based dental hygiene programs. However, institutions are exploring alumni organizations as a vehicle for fund-raising and support.

- Surveys of graduates of dental hygiene programs appear to demonstrate support of education and training provided, as do surveys of dental employers. Utilization of expanded functions, i.e., local anesthesia, curettage and nitrous oxide-oxygen analgesia varies from locale to locale.

- The dental hygiene association is very active legislatively. Members are well organized and lobby proactively for a wide variety of health related issues.

- The dental association has worked with the dental hygiene association in the past to expand the practice act but is currently developing a more restrictive viewpoint. The dental association recently supported efforts by the dental assisting association to expand their duties into arenas that have traditionally been within the purview of dental hygiene.

- It is expected that a more tenuous relationship will prevail between the dental hygiene and dental association as hygienists proceed with further legislative endeavors.

FUTURE OF DENTAL HYGIENE EDUCATION AND PRACTICE
WORKSHOP III - CASE STUDY
STATE: VIOLET

Sociologic/Demographic Factors

The total state population is 11,426,518. The population predominately resides in urban/surburban areas (9,518,039 or 84%). The largest urban area including the suburban fringe is Metro "A" with 3,144,894 people. Other large metropolitan areas in descending order are: Metro "B" (380,900), Metro "C" (170,065), Metro "D" (145,712), Metro "E" (100,054), Metro "F" (94,111), Metro "G" (94,081), Metro "H" (81,293) and Metro "I" (77,956). The remaining urban population is distributed among various cities and towns located within the 55,646 square mile region. The size of the rural population is 1,908,479 (16%). Eighteen percent (343,317) of the rural populace live in places with a population between 1,000 and 2,500 people. The major races are white (8,911,706), black (1,661,909) and hispanic (635,602). Of these groups the majority of each are located in urban areas: black (99%), hispanic (97%) and white (79%).

Regarding age of the population, Violet is considered a young state with 64% under 40 years of age. Of that group 16% range between 25-34 years of age with a median age of 29.9 (29.7 urban/suburban and 30.6 rural). The median age for males is 28.6 and 31.1 for females.

Data from the 1980 Census has illustrated an overall 2.8% increase in the total population with the largest growth among minorities (14.7% black and 5.6% hispanic). In addition, trends indicate that the population is aging with increasing growth rates of 60.6% in the 18-64 age groups, 28.4% in the 18 and under range and 11% in the 65 plus age group.

Economic Vitality and Conditions

Violet is considered a vital and growing state with a diverse economic base. Major industries include manufacturing (25.8% of all employed); wholesale and retail trade (20.7%); professional and related services (19.6%); finance, insurance and real estate (6.8%); construction (4.6%) and public administration (4.3%).

Regarding various occupations in the state the greatest increase over the past ten years has been in the managerial and professional specialty occupations (+4.4%), with only a slight increase (+.7%) in both the technical sales/administrative support occupations and the service occupations. Whereas, there has been a decrease in occupations listed as operators, fabricators and laborers (-3.1%).

Of all employed, the total number of females in the workforce increased by nearly 30% over the past ten years, and the greatest occupational growth was in the managerial and professional specialty occupations (+5.7%). The greatest decrease was in occupations listed as operators, fabricators and laborers (-3.1%). Regarding the health occupations in the state, there has been an increase in both health diagnosing occupations (i.e. physicians, dentists, optometrists, etc.) and health assessment and treating occupations (i.e. registered nurses, dietitions, therapists, etc.). In both of these health occupational catagories, the number of females employed in these areas more than doubled over the last ten years.

Political Factors

Presently, the State House of Representatives is composed of 67 Democrats and 51 Republicans. The Senate composition is 31 Democrats and 28 Republicans. The governor is a Republican. Over the past five years the governing bodies have generally acted conservatively in terms of budget allocations to education (particularly higher education) and health and social services. This conservative trend has not been reversed even with increased democratic influence in the House and Senate. For fiscal year 1985-86 the total budget allocated to education was $4.7 billion; of which $1.269 billion was earmarked for higher education. Of that $1.269 billion, 66.3% was appropriated for public four-year colleges and universities and 14.7% for public community colleges (the remainder is appropriated for scholarships, grants and other programs).

The State of Higher Education, Structure and Governing Bodies

The demand for higher education is decreasing due to the aging of the baby boom generation and the reduced growth rate of the populace under 18 years of age. Due to the trend of delay of childbirth among the middle class women aspiring towards establishment of careers, a future demand for higher education is anticipated as their children begin to age.

The State Board of Higher Education acts as a coordinating board for all higher education in the state. In comparison to other state coordinating boards, the VBHE is considered strong in that it has the authority to review and approve new programs, new institutions, new capital expenditures and make recommendations to the State Legislature regarding budget expenditures for all of the state public institutions and for those private institutions established after 1961.

In addition, the VBHE is responsible for long range planning in education, data collection and review of all programs on a 5-year cycle for public institutions and those private institutions established after 1979. Moreover, the VBHE has the authority to investigate consumer complaints regarding public institutions and any private ones established after 1961. The VBHE coordinates actions and policies approved by other boards under their governance: Board of Regents, Board of Governors, Southern Violet Board, University of Violet Board and the Violet Community College Board. There are three universities under the Board of Regents, five universities under the Board of Governors, two separate campuses of one university under the Southern Violet Board, two separate campuses of one university under the University of Violet Board and 51 community colleges under the Violet Community College Board. In addition, there are 83 private 4-year colleges and universities and 13 private community colleges which are represented through the Federation of Independent Colleges and Universities to the VBHE. There are eight dental hygiene programs in Violet: two programs are housed in private universities in the northern section of the state, one in a public university in the southern section of the state and five in community colleges (2 in the northern section and 3 in the central section).

1. Green University, a private institution, is represented by the Federation of Independent Colleges and Universities to the VBHE, although it does not fall under the jurisdiction of the VBHE since it was established in 1851. GU's medical/dental school campus is located in Metro "A" and offers a Certificate in Dental Hygiene granted by the Dental School. This certificate program is two years including one summer session in length. It also offers a program for an advanced degree (Bachelors Degree in Dental Hygiene) of which approximately one-third of the graduates in the certificate program enter.

2. Blue University, a private institution, is represented by the Federation of Independent Colleges and Universities to the VBHE, although it does not fall under the jurisdiction of the VBHE since it was established in 1870. It is located in a suburb of Metro "A", and offers a Certificate in Dental Hygiene granted by the Dental School. This certificate program is two years in length. BU also offers a Bachelor of Science Degree program with a major in Dental Hygiene (approximately 45-60% of their 2-year graduates continue in this program). This advanced degree is awarded by the College of Arts and Sciences and is located at another campus approximately 25 miles away.

3. Southern Violet University, a public institution, is governed under the Southern Violet Board which is directly under the governance of the VBHE. SVU is located in the southern section of the state in a city of 26,000. The School of Technical Careers grants an Associate in Applied Science Degree to the dental hygiene graduates. This program is two years (including one summer) in length. SVU also offers a Bachelor of Health Science Degree with a major in Health Care Management, Career Development and Vocational/Occupational Education for those students interested in continuing their education (approximately 35-60% of their graduate dental hygiene students).

4. Alpha College, a public community college, is under the jurisdiction of the Violet Community College Board which is directly under the governance of the VBHE. AC is located in a suburb of Metro "A" and offers an Associate in Applied Science Degree. This program is two years (including two summers) in length. Although there is no formal articulation agreement, AC graduates desiring further education have been encouraged to attend and have successfully completed programs at Blue University and Southern Violet University. Presently, AC is investigating into an articulation agreement with SVU for bachelor degree completion programs in the areas of Health Occupations and Vocational/Occupational Education. Note that Blue University is located approximately 30 miles away and SVU is 360 miles away from Alpha although SVU offers off-campus courses throughout the state and frequently in close proximity to the community college. In addition, there are programs in allied health education and delivery systems at Governors Violet University (located approximately 10 miles from Alpha); however, the programs as they are presently constructed do not promote further career opportunities for hygienists. Violet Governors University, a public institution, is governed by the Board of Governors under the VBHE.

5. Beta College, a public community college, is under the jurisdiction of the Violet Community College Board which falls under the governance of the VBHE. Beta is located in a suburb of Metro "A" and offers either a Certificate in Dental Hygiene or an Associate in Applied Science Degree (which requires 2 to 3 additional courses in liberal arts and sciences). This

program is two and one-half years (including two summers) in length. Although Beta does not have a formal articulation agreement with any four-year institution, their graduates are encouraged to continue their education at Blue University or Green University (both approximately 15-20 miles away) or at George Washington College (a private institution, approximately 12 miles away) or Northern Violet University (a public institution, under the Board of Regents of the VBHE, approximately 65 miles away).

6. Gamma College, a public community college, is under the jurisdiction of the Violet Community College Board of the VBHE. Gamma is located in an urban area of central Violet comprised of a population of 94,111. This program is two years in length; however, some students are advised by the program director to complete it in three years dependent upon the student's qualifications. Upon completion of the program, the graduate is awarded an Associate in Applied Science Degree. Although Gamma has no formal articulation agreement, graduates have completed bachelor degree requirements at the University of Violet (located in the same urban area) in Health Occupations Education and business related fields. The University of Violet is a public institution under the University of Violet Board of the VBHE. Moreover, graduates have also attended Eastern Violet University (approximately 50 miles away) completing degrees in education. Many of EVU's courses are offered off-campus and in close proximity to Gamma's campus. EVU is under the Board of Governor's governance system of the VBHE.

7. Delta College, a public community college is under the Violet Community College Board of the VBHE. It is located in a small city of 19,800 in Central Violet. Its two-year program (including a summer session) awards an Associate of Applied Science Degree. Although Delta does not have a formal articulation agreement, graduates continue their education at either Eastern Violet University (approximately 15 miles away) or Southern Violet University (140 miles away) in the areas of Health Occupations or Health Management. Note that

SVU's off-campus program allows for courses offered through-out the state with some in close proximity to Delta College. .

8. Epsilon College, a public community college, is under the Violet Community College Board of the VBHE. EC is located in an urban area of 170,065 in Central Violet. This two-year program (including one summer session) awards an Associate in Applied Science Degree. Although there is no formal articulation agreement between EC and senior institutions, their graduates often attend Violet State University (approximately 40 miles away) majoring in Biology or Education, Adams University (approximately 15 miles away) majoring in Liberal Arts and Sciences, Southern Violet University (approximately 236 miles away and also offers nearby off-campus courses) majoring in Allied Health Education, or Green University (approximately 157 miles away) majoring in Dental Hygiene. Note that Adams and Green universities are private institutions established prior to 1961; whereas, Violet State University is is under the Board of Regents and SVU under the Southern Violet Board of the VBHE.

Institutional Missions

1. Green University. The institution's overall objective is to create knowledge through research, servicing people in realization of their potential and dissemination of knowledge to the community at large.

2. Blue University. Blue's institutional mission is the gathering and dissemination of knowledge and information through research, excellence in teaching and community service for both private and public sectors.

3. Southern Violet University. The primary aims are the creation of knowledge through research with a commitment to dissemination of information through teaching.

4. Alpha College. This mission is based on the philosophy that education is a life-long process. The institution is committed to excellence in teaching, community service and is student-oriented in terms of accessibility (financial and geographic), educational levels and support services. Moreover, the institution supports career programs, general lower division education for transfer to senior institutions and continuing education for self-improvement.

5. Beta College. The institutional aims are three-fold: 1) prepare students for careers in various areas, 2) provide quality lower division education for transfer to senior institutions and 3) provide continuing education for self-improvement.

6. Gamma College. The institutions's mission includes preparation of graduates for careers, provision of basic liberal education for the transfer student and provision of guidance and encouragement to the community, particularly special groups such as graduates and the geriatric and handicapped populace.

7. Delta College. The overall mission is to provide good basic education for students entering the workforce and continuing their education at a senior institution.

8. Epsilon College. The mission of this college is aimed at serving the community: preparation for careers, counseling and assistance for re-training of displaced workers in the community and provision of a quality lower division education for those students transferring to senior institutions for further education.

Institutional Strengths & Weaknesses

1. Green University

Strengths: Major strengths include the reputation and prestige of this well-established university which owns five hospitals and a rehabilitation center. In addition, the dental school has long been renowned for excellence and initiative. Moreover, qualifications of the dental hygiene faculty and sufficient funding for the dental hygiene program have contributed to this program's success. Other strengths include the institution's accessibility, facilities and setting within the dental school environment.

Weaknesses: Although funding is adequate, there has been budget cuts across the board within the university which is consistent with national trends resulting in restraint in program spending. In addition, it was pointed out that an increase in the applicant pool would assist in improving the program.

2. Blue University.

Strengths: Major strengths include the program setting within a dental school where administrative support, a diverse faculty and opportunity for a large and comprehensive patient pool are present. In addition, the dental hygiene program, being affiliated with both the dental school and the university's College of Arts and Sciences provides a degree program offering development of expertise in a specialty area as well as a well-rounded and comprehensive learning experience in scope, breath and depth.

Other strengths include excellent location in regards to accessibility, comprehensive library facility (medical center and general), complete counseling services and a free and unlimited student health plan.

Weaknesses: Areas in need of improvement include student recruitment regarding improvement of the applicant pool in terms of quality and quantity, increased funding for continuing education and travel for faculty, improved salary range for both full and part-time faculty to continue attracting and retaining qualified staff, and re-adjustment of faculty course loads to provide more time for research and publication.

3. Southern Violet University.

Strengths: The greatest strength of this program is its faculty: all possessing advanced degrees as well as established areas of specialization in the dental hygiene curriculum. In addition, this faculty has been stable allowing for consistancy in planning and implementation of further program development. Other strengths of this program are new equipment and dental hygiene facilities, comprehensive library services, a strong financial aid department and an opportunity for students to complete a Bachelor Degree while residing on campus.

Weaknesses: Some problems experienced by the faculty include the geographic location of the campus requiring extensive funding for transportation to professional development activities offered outside of the university. In addition, there is a need for a re-adjustment of the faculty course load to allow for continued and expanded research activities. Finally, there is a need for increased supportive staff to assist in program maintenance and procedures.

4. Alpha College.

Strengths: Major strengths of this college include commitment to excellence in teaching by maintaining reasonable faculty course loads, manageable class sizes, low cost for student tuition and fees, adequate provision of student financial aid, a complete and free of charge personalized learning program to assist disadvantaged students or those in need of personalized tutoring in any given subject area, and a strong commitment to maintenance of its occupational programs. Another strength includes AC's accessible location regarding three major interstate highways. Moreover, the dental hygiene student has a variety of clinical experiences on patients at extramural sites such as nursing homes, Veteran's Hospital and the Headstart Program.

Weaknesses: Areas in need of improvement include: a need for an articulation agreement between AC and a senior institution for graduates interested in continuing their education, an improved procedure and mechanism for re-entry of students dismissed for academic reasons who express interest in a second attempt at successful completion, increased funding for faculty professional development, and increased funding for renovation and continued maintenance of facilities.

5. Beta College.

Strengths: Major strengths include excellent and well equipped facilities, a comprehensive resource library, an active scholarship and student loan department, an accessible campus regarding public transportation and major highways, a supportive administration, and complete counseling services (academic and personal). Moreover, Beta's patient pool is comprehensive with emphasis on special groups such as the geriatric and mentally handicapped patient.

Weaknesses: There is need for more full-time faculty positions assigned to the dental hygiene programs to promote continuity and opportunity to implement plans for development. In addition, an active alumni group would be able to assist with directing and supporting the program's change and development. There is need for an improved marketing program to improve student recruitment, and, finally, development of a continuing education program for practicing hygienists is needed to assist graduates and other practitioners with updating techniques, skills and knowledge.

6. Gamma College.

Strengths: Major strengths include an active job placement office, a comprehensive library including microcomputers which are used in self-instruction and computer-assisted instruction, and a complete learning laboratory to assist students with problems in study skills, test-taking and preparation for the National Board Examination. Gamma also provides excellent administrative support to the program and complete counseling services (academic and personal).

Weaknesses: The greatest weakness is a need for an adequate recruitment program. In addition, an increase in faculty salaries and funding for professional development would assist in improving the program.

7. Delta College.

Strengths: Major strengths include a comprehensive and well equipped dental hygiene facility, adequate library services and a varied clinical experience for dental hygiene students (nursing homes, institutionalized patients and patients from the Headstart Program).

Weaknesses: Areas of improvement include improved financial support, increased salaries for faculty and increased faculty development time. Finally, there is a need for increased funding for additional equipment to be used in the program.

8. Epsilon College.

Strengths: Major strengths include the geographic accessibility of the campus which is centered in a three-county area, retention of a qualified faculty allowing for continuity of instruction, excellent job placement office, strong support by area dental and dental hygiene societies, and an excellent student/teacher ratio.

Weaknesses: Further improvements of the physical facility and replacement of equipment would enhance the program. In addition, an improved student recruitment program both within and outside of the community college district would be helpful.

Fiscal Condition and Climate

1. Green University. Overall, financial support for the dental school and dental hygiene program has been considered between adequate to very good. The institution is primarily funded by public and private grants and endowments. In addition, student tuition and patient fees are added revenue.

2. Blue University. Generally, financial support for the dental school and dental hygiene program have been considered between adequate to very good. The institution is primarily funded by private and public grants, gifts and endowments. In addition, student tuition and patient fees are added revenue.

3. Southern Violet University. Overall, financial support for the dental hygiene program has been adequate. The institution is primarily funded by public grants, private donations and endowments, state apportionment and student tuition. In addition, patient fees are added revenue. Finally, the dental hygiene program receives funding for purchase of equipment from the state's Department of Adult Vocational and Technical Education.

4. Alpha College. Generally, financial support for the dental hygiene program has been considered between adequate to very good. The institution is primarily supported by state funding, local tax revenue and student tuition. In addition, patient fees and awarding of an occasional public grant are added revenue for the college. The dental hygiene program is also eligible for funding from the state's Department of Adult Vocational and Technical Education regarding purchase of new equipment.

5. Beta College. Overall, financial support for the dental hygiene program has been adequate. The institution like other community colleges in the state is supported by state and local tax revenue and student tuition. In addition, the dental hygiene program is also eligible for funding from the Violet Department of Adult Vocational and Technical Education regarding purchases of new equipment.

6. Gamma College. Generally, financial support for the dental hygiene program has been adequate. Similar to other community colleges, this institution is supported by state and local tax revenue and student tuition. The community tax base has been particularly strong and stable despite the national trend towards decreased support. The college also benefits from patient fees as an added source of revenue. Finally, the dental hygiene program is eligible for funding from the state's Department of Adult Vocational and Technical Education regarding purchases of new equipment.

7. Delta College. Overall, financial support for the dental hygiene program has been considered between adequate to poor. The institution is supported by state and local tax revenue and student tuition. In addition, the dental hygiene program is eligible for funding from the State's Department of Adult Vocational and Technical Education regarding the purchase of equipment.

8. Epsilon College. In general, financial support for the dental hygiene program has been considered to be adequate. Similar to other community colleges, the institution is supported by state and local tax revenue and student tuition. Moreover, the college benefits from patient fees as an added source of revenue. Finally, the dental hygiene program is eligible for funding from the State's Department of Adult Vocational and Technical Education for purchase of new equipment.

Perceptions of Directors Concerning Support from the Professional Community and Interaction Among Institutions

1. Green University. There is strong support from the professional community for the dental hygiene program. GU has an active and supportive alumni group from the dental school which also acts in an advisory capacity. This alumni group consists of dentists and dental hygienists with both groups sharing leadership responsibility for the Alumni Association. In addition, there exists excellent rapport between the dental hygiene program and the dental school. Moreover, local component dental hygiene societies support and interact with the student organization. Regarding interaction between the dental hygiene programs within the state, there has been little communication in the recent past.

2. Blue University. There is strong support from the professional community for the dental hygiene program. BU established a dental hygiene alumni group approximately six years ago which remains active and supportive. In addition, there is support from the university's dental school for the program. Moreover, there is strong support from and interaction with the local component dental hygiene society which sponsors student scholarships and students attending component meetings. Regarding interaction among the state's dental hygiene educators, there has been no recent activity nor formal communication.

3. Southern Violet University. There is strong support for the dental hygiene program from the professional community. SVU has recently established an alumni group which has been very active and supportive. In addition, the local component group is composed mainly of faculty and alumni who are keenly aware of the program's needs and concerns. They have acted very supportive of needed changes throughout the years. Although SVU has an established advisory committee composed of 60% dentists, 35% dental hygienists and 5% consumers or educators, it has not been very active. In regards to interaction among the state's dental hygiene educators, no activity has been reported.

4. Alpha College. The professional community has strongly supported the dental hygiene program. AC has a supportive advisory committee composed of 6 dentists, 3 dental hygienists, 3 dental assistants and a hospital administrator. In addition, the local component society is very active involving the student organization in community projects, meetings and fund-raising activities. It also sponsors students attending component meetings. The dental hygiene program does not have an alumni group. Regarding interaction between the various dental hygiene institutions, very little current activity was reported although the directors previously organized a formal organization which met annually.

5. Beta College. There is strong support for the dental hygiene program among the professional community. Presently, the program has an active advisory committee consisting of 3 dentists, 3 dental hygienists and 2 students. Moreover, the local dental hygiene component actively supports the program and interacts with the students. The local component also sponsors students attending component meetings. In regards to interaction among the state's dental hygiene educators, no activity has been reported.

6. Gamma College. There is strong support for the dental hygiene program among the professional community. Presently, the program has a very active alumni group which was established two years ago. It has been supportive in meeting program needs and particularly helpful in improving student recruitment. The

program also has an active advisory committee composed of 4 dentists, 3 dental hygienists, 3 dental assistants and the college's job placement chairperson. Regarding support from the local component, interaction with the group has been limited even though the society supports the program. In regards to interaction among the state's dental hygiene educators, no formal communication currently exists.

7. *Delta College.* There is strong support for the dental hygiene program. Although there is no alumni group, the advisory committee consisting of 4 dentists, 3 dental hygienists, 3 dental assistants and a consumer is very active and supportive of program needs. In addition, the local dental hygiene component is very active and supportive of the program. Regarding interaction with other dental hygiene institutions, very little communication was sited.

8. *Epsilon College.* There is strong support for the dental hygiene program. There is an advisory committee composed of 3 dentists, 3 dental hygienists and 3 dental assistants who are aware of program concerns and needs and have been actively supportive. Moreover, both the local dental and dental hygiene societies have had contact with students and educators and are very supportive of the program. There is currently no dental hygiene alumni group. Regarding interaction with other state dental hygiene educators, no formal mechanism for communication exists; however, EC had cooperation from all the other programs in completing a survey conducted last spring.

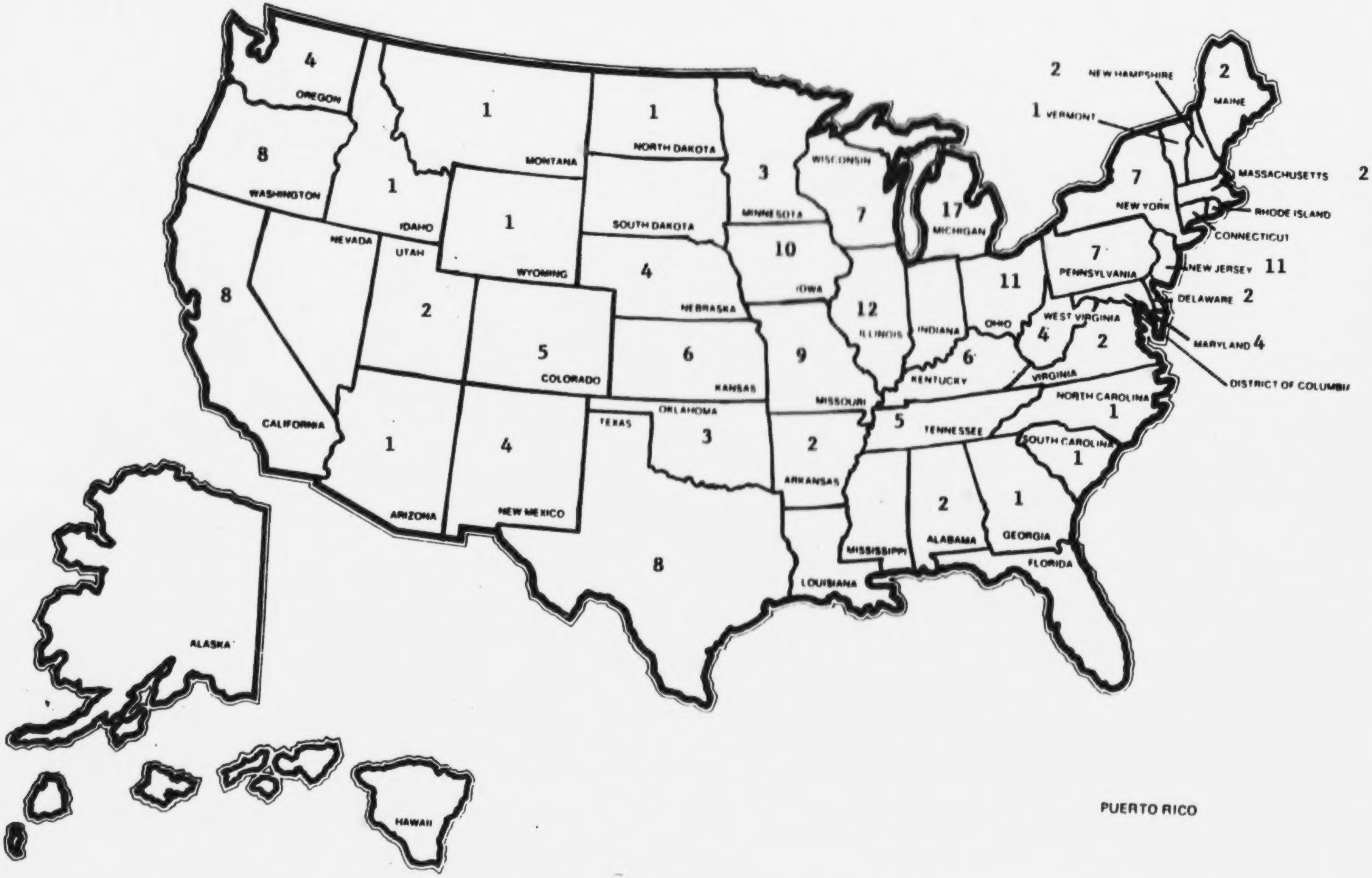
REFERENCE GUIDE

STATE: VIOLET

COLLEGES/UNIVERSITIES WITH DENTAL HYGIENE PROGRAMS:

1. Green University - (Private) Located in Metro "A".
2. Blue University - (Private) Located in suburb of Metro "A".
3. Southern Violet University - (Public) Located in a small city in the southern section of the state.
4. Alpha College - (Public) Community college located in suburb of Metro "A".
5. Beta College - (Public) Community college located in suburb of Metro "A".
6. Gamma College - (Public) Community college located in Metro "F".
7. Delta College - (Public) Community college located in a small city in the central section of the state.
8. Epsilon College - (Public) Community college located in Metro "C".

COMBINED REPRESENTATION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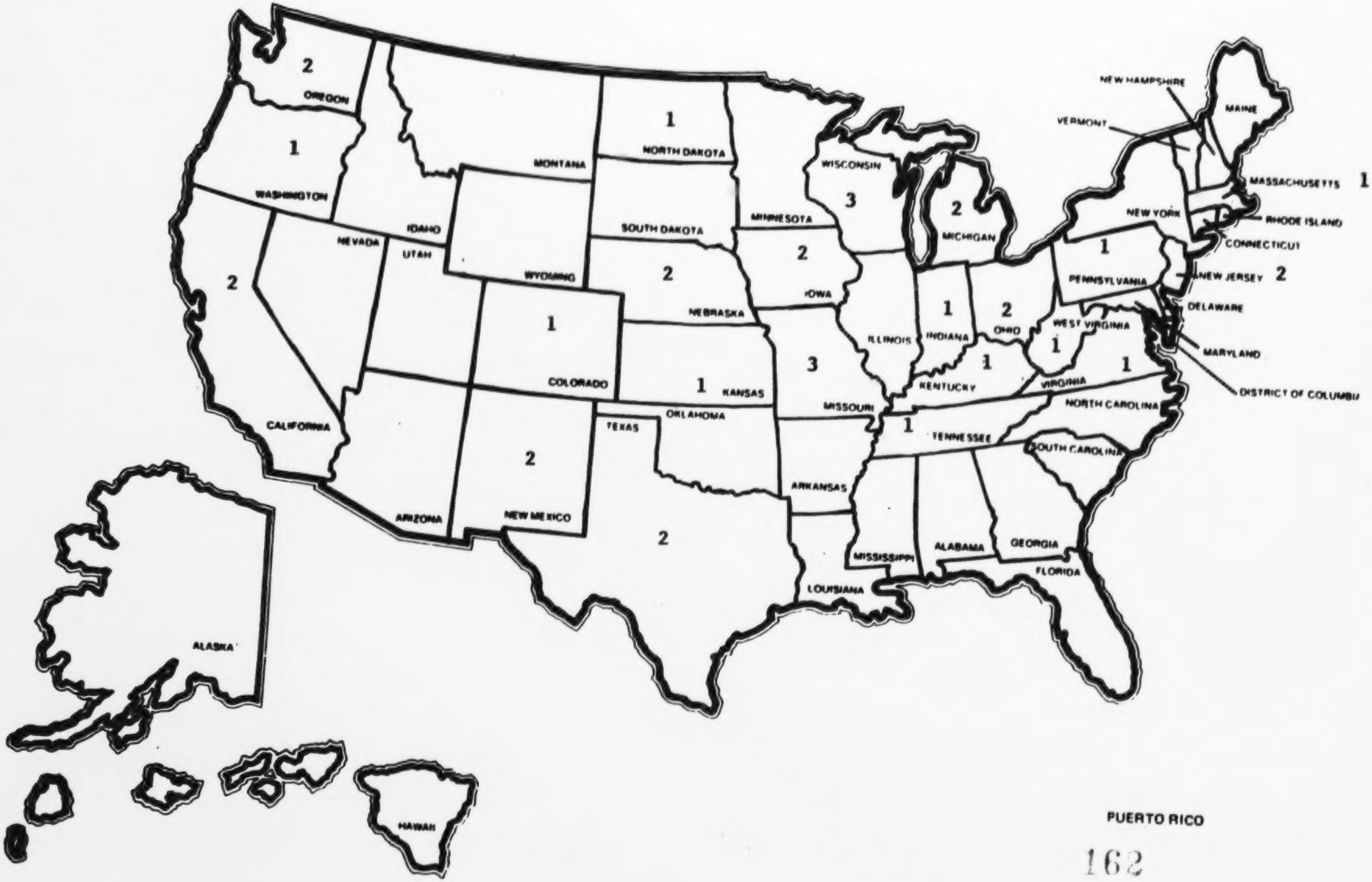
PUERTO RICO

CONSTITUENT REPRESENTATIVES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NEW JERSEY 2
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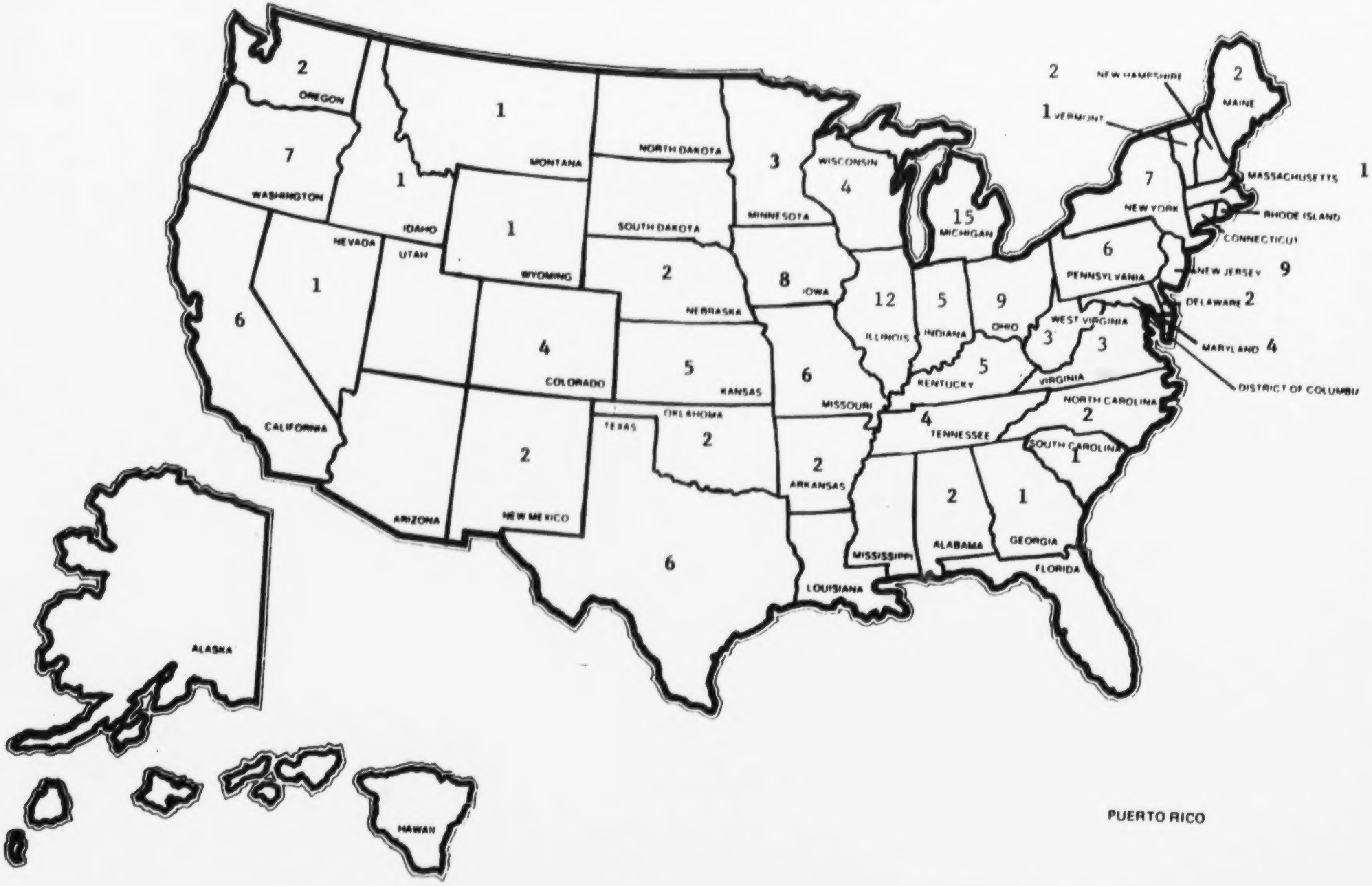
DISTRICT OF COLUMBIA
ALASKA
HAWAII
PUERTO RICO

DENTAL HYGIENE EDUCATIONAL PROGRAMS REPRESENTATION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